REBUTTAL TESTIMONY OF

JOHN J. SPANOS

ON BEHALF OF

DOMINION ENERGY SOUTH CAROLINA, INC.

DOCKET NO. 2020-125-E

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I. INTRODUCTION AND WITNESS QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is John J. Spanos. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania, 17011.

Q. ARE YOU THE SAME JOHN SPANOS THAT PRESENTED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My rebuttal testimony responds to the depreciation related testimony of David J. Garrett on behalf of the South Carolina Office of Regulatory Staff ("ORS"). The issues relate to the most appropriate life characteristics of some transmission and distribution accounts and the most reasonable approach to net salvage for generation accounts. I will also address depreciation related issues raised by ORS witness Lane Kollen and Sierra Club witness Elizabeth A. Stanton concerning excluded plant in service. Additionally, I will discuss the amortization period for the Canadys generation station which is addressed by Mark E. Garrett on behalf of the United States Department of Defense and All Other Federal Executive Agencies ("DOD-FEA").

Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.

A. ORS Witness David Garrett has proposed changes to the net salvage component for generation accounts and proposed different life characteristics for some transmission and distribution accounts that approximate over $20 million of reduced annual depreciation expense. Each of his recommendations is unreasonable and fail to follow all of the methodologies of authoritative texts for estimating life and net salvage parameters.

Although, ORS Witness Garrett attempts to establish a distinction between terminal and interim net salvage for generating facilities, his calculations are flawed and create a random and insufficient amount of terminal net salvage which is not supportable. Additionally, ORS Witness Garrett does not follow standard recovery practices of a net salvage component to the date of retirement. I will discuss the key elements that are incorrect and provide correct calculations that would be appropriate for the type of methodology he is recommending. As for his recommended changes to life estimation, his survivor curves are not consistent with the matching principle which emphasizes the need to match utilization of the assets to recovery of the assets. His process of only using mathematical fitting of curves clearly produces unreasonable life cycles of many asset classes. It is clear that his lack of informed judgment and understanding of the full life cycle of each asset class to which he recommends a change has created survivor curves that are not consistent with the reliability of the assets or the need for the utility to provide quality service to its customers. A few examples of ORS Witness D. Garrett not fully considering the life cycle of his estimate would be in Account 355, Poles and Fixtures, Account 373, Street Lighting and Signal Systems. For Account 355, Poles and Fixtures, ORS Witness D. Garrett recommends a 59-L1.5 survivor curve which estimates an average life of 59 years but a maximum life of nearly 150 years. Therefore, ORS Witness D. Garrett has the unrealistic expectation that once transmission poles reach 60 years of age there will be less forces of retirements on poles and that DESC should be expected to leave poles in service and provide quality, reliable service until age 150. ORS Witness D. Garrett has a similar expectation for Account 373, Street Lighting and Signal Systems where he estimates an average life of 42 years and maximum life of 105 years. Again, his estimate anticipates the forces of retirement will be reduced as the assets in this account get beyond the average and he does not consider the extensive program to replace all high pressure sodium fixtures with LED lighting. Flaws of this type in ORS Witness D. Garrett's life estimation is clearly the result of not using informed judgment in his analysis.

I will address ORS Witness, Lane Kollen's recommendations to exclude certain transmission assets and his additional adjustments to depreciation expense based on Mr. David Garrett's calculations. Mr. Kollen does not conduct any independent depreciation analyses. The issue I will rebut related to Sierra Club witness Stanton is the inappropriate reduction of plant additions that have occurred and been in service for the last few years. Many plant additions are necessary in order to keep assets operating. I will also address DOD-FEA Witness Mark Garrett's recommendation of a 40-year amortization period for recovery of the Canadys remaining net plant. There simply is no basis for this long period of time as compared to the established remaining life of the plant when it was taken out of service. The Canadys plant had a life span through 2025 which was how the full service value was calculated and recovery was established. Thus, here is no reason to change that recovery period for Canadys.

II. <u>LIFE ANALYSIS FOR MASS ACCOUNTS</u>

Q. DID ORS WITNESS GARRETT PROPOSE ANY CHANGES TO THE SERVICE LIVES FOR MASS PROPERTY PROPOSED BY DOMINION ENERGY SOUTH CAROLINA ("DESC")?

A. Yes. ORS Witness D. Garrett proposed changes to the service lives of 10 of the accounts or subaccounts studied in this case.

Q. PLEASE SUMMARIZE THE ADJUSTMENTS PROPOSED BY ORS WITNESS D. GARRETT FOR MASS PROPERTY SERVICE LIVES.

A. ORS Witness D. Garrett has proposed adjustments to the survivor curve estimates for ten Transmission and Distribution plant accounts or subaccounts. These are summarized in the table below.

Table 1

ACCOUNT	DESCRIPTION	DESC	ORS
	TRANSMISSION PLANT		
355.00	POLES AND FIXTURES	53-S1	59-L1.5
355.50	POLES AND FIXTURES - NND	53-S1	59-L1.5
356.10	OVERHEAD CONDUCTORS AND DEVICES	57-R2.5	64-S0.5
356.20	OVERHEAD CONDUCTORS AND DEVICES - FIBER OPTIC	57-R2.5	64-S0.5
356.50	OVERHEAD CONDUCTORS AND DEVICES - NND	57-R2.5	64-S0.5
	DISTRIBUTION PLANT		
365.00	OVERHEAD CONDUCTORS AND DEVICES	60-R1.5	64-R1
368.00	LINE TRANSFORMERS	44-R2.5	46-R2
369.00	SERVICES - OVERHEAD	70-R3	75-R3
369.10	SERVICES - UNDERGROUND	70-S3	80-S3
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	39-S0.5	42-L1

In summary, the recommendations made by ORS Witness D. Garrett are not reasonable. His recommendations result from the unreasonable and contrived approach ORS Witness D. Garrett has used to develop his estimates, which is based primarily on mathematical curve fitting. This approach does not give the appropriate consideration to the mortality characteristics of the assets studied or to other factors that should be considered. Life estimation is not just establishing an average service life but an entire life cycle so the average service life is combined with the mortality curve (survivor curve) to determine the most appropriate life cycle of an asset class. Additionally, ORS Witness D. Garrett's statistical analysis has not properly incorporated relevant historical and future information that is necessary and required to estimate correctly and accurately life cycles which has been incorporated to support and confirm my estimates.

A. The Estimation of Service Lives Is Not a Purely Mathematical Exercise and Must Incorporate Informed Judgment

Q. HAS ORS WITNESS D. GARRETT USED THE SAME APPROACH TO ESTIMATING SERVICE LIVES AS YOU USED IN THE DEPRECIATION STUDY?

A. No. While both ORS Witness Garrett and I have used Iowa type survivor curves to calculate depreciation expense and used the retirement rate method to analyze historical data, ORS Witness D. Garrett's overall approach differs from mine. His approach also differs from the correct and proper approach to estimating service lives that is set forth in depreciation textbooks such as NARUC's *Public Utility Depreciation Practices*. Specifically, ORS Witness D. Garrett's testimony indicates that he believes estimating service lives is primarily a mathematical exercise in which little more than mathematical computations of historical accounting data will result in reasonable estimates. This overall approach is incorrect and contrived to reach a particular outcome rather than designed to truly estimate the estimated lives of the studied assets. Depreciation, and particularly estimating service lives, is a forecast of the future rather than a calculation of what has happened in the past.

Q. PLEASE EXPLAIN IN MORE DETAIL HOW ORS WITNESS D. GARRETT'S APPROACH DOES NOT COMPORT WITH THE PROPER MANNER IN WHICH SERVICE LIFE ESTIMATES SHOULD BE DETERMINED.

A. Consider, as an example, the following statement from ORS Witness D. Garrett's testimony in which he describes his approach. He is asked if he always selects the "mathematically best-fitting curve," and after responding that he does not necessarily always do so, ORS Witness D. Garrett states the following:

> Mathematical fitting is an important part of the curve-fitting process because it promotes objective, unbiased results. While mathematical curve-fitting is important, however, it may not always yield the optimum result. For example, if there is insufficient historical data in a particular account and the OLT curve derived from that data is relatively short and flat, the mathematically "best" curve may be one with a very long average life. However, when there is sufficient data available, mathematical curve fitting can be used as part of an objective service life analysis.[1]

ORS Witness D. Garrett's testimony gives the impression that mathematical results should generally be accepted, even though he candidly admits that mathematical curve-fitting "may not always yield the optimum result." Then he attempts to argue that notwithstanding the fact that mathematical curve-fitting is not always optimum, the instances in which the proper service life estimate is not a best "mathematical fit" would be a relatively unusual exception (such as if there is insufficient data). His reasoning for reliance on mathematical results is that doing so promotes "objectivity." While one may desire objective results, so as to remove uncertainty and presumably to make the job of estimating service lives easier, the objectivity sought by ORS Witness D. Garrett is simply not realistic in the development of a true forecast of the future. Further, authorities on the

[1] D. Garrett at 14:16-22.

topic of depreciation, such as NARUC, are clear that estimating service lives must, by necessity, include a subjective component, a standard within the industry that ORS Witness D. Garrett ignores.

Q. DOES NARUC EXPLAIN THE IMPORTANCE OF A SUBJECTIVE COMPONENT TO ESTIMATING SERVICE LIVES?

A. Yes. NARUC explains that there must be a subjective component to estimating service lives. Chapter XIII of *Public Utility Depreciation Practices*, entitled "Actuarial Life Analysis" discusses and emphasizes the subjective nature of the process of estimating service lives. NARUC starts this chapter by explaining that the analysis of historical data is only one part of the process of estimating service lives:

> Actuarial analysis objectively measures how the company has retired its investment. The analyst must then judge whether this historical view depicts the future life of the property in service. The analyst takes into consideration various factors, such as changes in technology, services provided, or capital budgets.[2]

NARUC further explains that the process of estimating service lives must go beyond any objective measurement of the past. In describing the determination of a survivor curve estimate (referred to as the "projection life" in this passage), NARUC states:

> <u>The projection life is a projection, or forecast, of the future of the property</u>. Historical indications may be useful in estimating a projection life curve. Certainly, the observations based on the property's history are a starting point. Trends in life or retirement dispersion can often be expected to continue. Likewise, unless there is some reason to expect otherwise, stability in life or retirement dispersion can be expected to continue, at least in the near term.
>
> <u>Depreciation analysts should avoid becoming ensnared in the mechanics of the historical life study and relying solely on mathematical solutions.</u> The reason for making an historical life

[2] National Association of Regulatory Utility Commissioners, *Public Utility Depreciation Practices*, 1996, p. 111.

> analysis is to develop a sufficient understanding of history in order to evaluate whether it is a reasonable predictor of the future. The importance of being aware of circumstances having direct bearing on the reason for making an historical life analysis cannot be understated. These circumstances, when factored into the analysis, determine the application and limitations of an historical life analysis.[3]

Thus, NARUC strongly advises against the approach used by ORS Witness D. Garrett, clearly stating that "relying solely on mathematical solutions" should be avoided. NARUC further elaborates on the need for a subjective component to forecasting service lives:

> A depreciation study is commonly described as having three periods of analysis: the past, present, and future. The past and present can usually be analyzed with great accuracy using many currently available analytical tools. The future still must be predicted and must largely include some subjective analysis. *Informed judgment* is a term used to define the subjective portion of the depreciation study process. It is based on a combination of general experience, knowledge of the properties and a physical inspection, information gathered throughout the industry, and other factors which assist the analyst in making a knowledgeable estimate.
>
> The use of informed judgment can be a major factor in forecasting. A logical process of examining and prioritizing the usefulness of information must be employed, since there are many sources of data that must be considered and weighed by importance. For example, the following forces of retirement need to be considered: Do the past and current service life dispersions represent the future? Will scrap prices rise or fall? What will be the impact of future technological obsolescence? Will the company be in existence in the future? The analyst must rank the factors and decide the relative weight to apply to each. The final estimate might not resemble any one of the specific factors; however, the result would be a decision based upon a combination of the components.[4]

[3] National Association of Regulatory Utility Commissioners, *Public Utility Depreciation Practices*, 1996, p. 126. Emphasis added.

[4] National Association of Regulatory Utility Commissioners, *Public Utility Depreciation Practices*, 1996, p. 128. Emphasis added.

Q. HAVE YOU INCORPORATED THE VARIOUS FACTORS DISCUSSED BY NARUC INTO YOUR ESTIMATES?

A. Yes. For the Depreciation Study, I conducted site visits and discussions with Company personnel to familiarize myself with the Company's assets. My judgment was also informed by having conducted previous depreciation studies over the last 20 years for the Company, and I incorporated information obtained from those studies as well. In addition, throughout my career, I have performed hundreds of depreciation studies for numerous utilities. The information and knowledge obtained from these experiences have also been incorporated into my recommendations.

Q. HAS ORS WITNESS D. GARRETT INCORPORATED THESE FACTORS INTO HIS RECOMMENDATIONS?

A. No, at least not to the degree necessary to develop a reasonable forecast. ORS Witness D. Garrett describes his differences from my proposals as follows:

> Generally, for the accounts in which I propose a longer service life, that proposal is based on the objective approach of choosing an Iowa curve that provides a better mathematical fit to the observed historical retirement pattern derived from the Company's plant data.[5]

Again, estimating service lives is not and should not be a purely mathematical exercise and must incorporate some degree of subjectivity using informed judgment ORS Witness D. Garrett's process for estimating service lives, as described in his testimony, does not follow the proper approach of incorporating informed judgment. Further, as I explain later in my testimony, his actual estimates reveal that he did not properly consider

[5] D. Garrett at 15-16:21-3.

all the relevant factors needed to develop reasonable service life estimates, and therefore his estimates should be rejected as flawed or unreasonable or both.

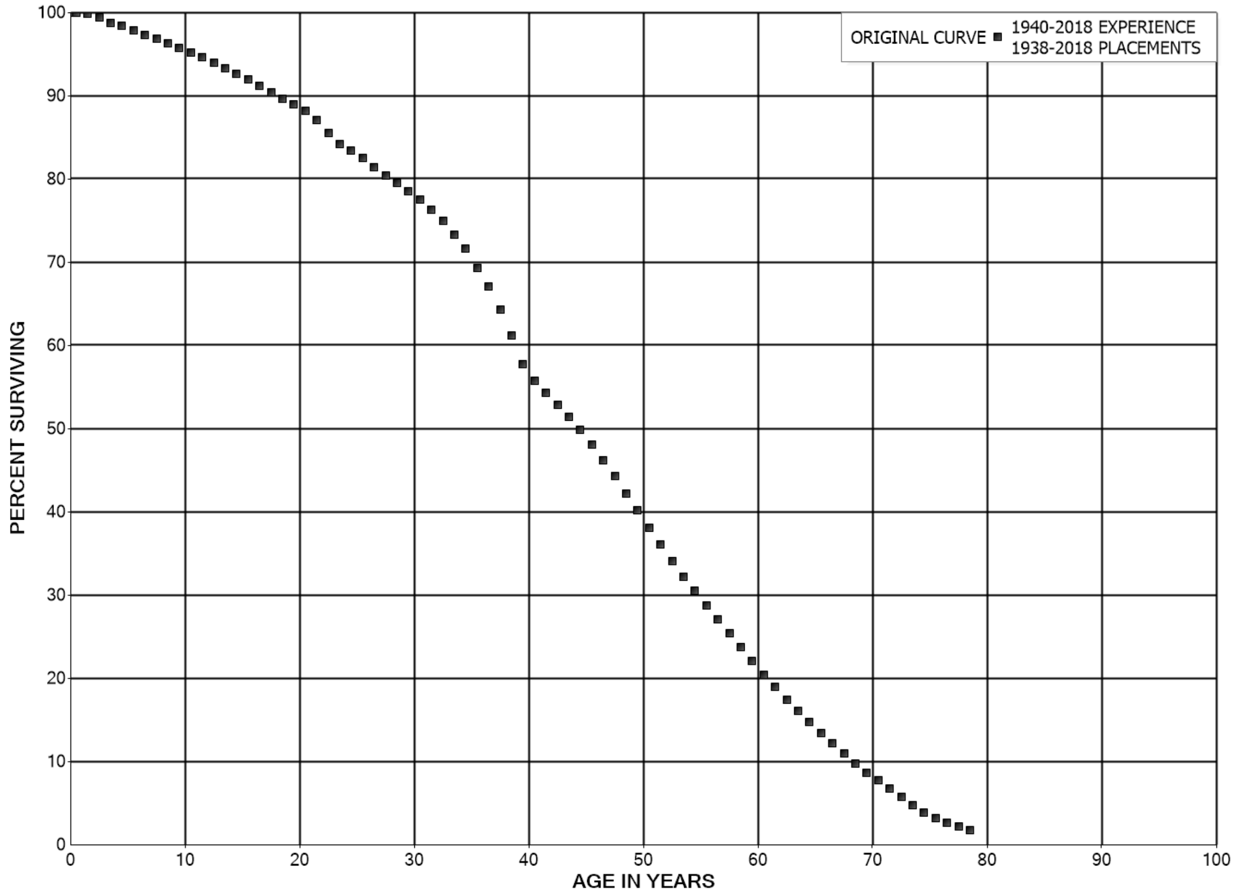
B. The Curve Fitting Process Must Also Incorporate Informed Judgment

Q. PLEASE BRIEFLY DESCRIBE THE CURVE FITTING PROCESS USED IN A DEPRECIATION STUDY.

A. As described in both ORS Witness D. Garrett's testimony and in the Depreciation Study provided with my direct testimony, the method of statistical life analysis used is referred to as the retirement rate method. The retirement rate method is used when aged data are available (i.e., the vintage year of historical transactions are known, which means that the age of each transaction can be determined). The retirement rate method develops an original life table[6] ("OLT") or a series of original life tables for each depreciable group. An OLT presents calculations, based on the historical data, of the percentage of plant that has survived to a given age. The OLT can also be shown graphically with age in the x-axis and the percent surviving in the y-axis. An example of an original life table graph for the full experience and placement bands for Account 364, Poles, Towers and Fixtures, is provided in Figure 1 below. The life table itself is presented on pages VII-176 through VII-177 of the Depreciation Study.

[6] Original life tables may also be referred to as "observed life tables" or the shorthand "life tables."

Figure 1: Graph of Original Life Table for Account 364, Poles, Towers and Fixtures



For the curve fitting process, the analyst can fit or match standard Iowa survivor curves to the data from an original life table. This can be performed either visually or mathematically. For visual curve matching, Iowa curves are graphed on the same graph as the OLT. For mathematical curve matching, the mathematical deviation from a given Iowa curve to the OLT is calculated for each data point. The lower the difference between a given survivor curve, the better the mathematical fit.

Q. ARE THERE ADVANTAGES AND DISADVANTAGES TO BOTH VISUAL AND MATHEMATICAL CURVE MATCHING?

A. Yes. Visual curve matching offers a number of advantages over mathematical curve matching. Different ranges of data points can be given more or less emphasis depending on the characteristics of the account. It is easier to identify irregularities in the data when performing visual curve matching. Visual curve matching also allows the analyst to view the full Iowa survivor curve to assess whether the full life cycle forecast by the curve is reasonable for the property studied.

Many years ago, a disadvantage of visual curve matching was that it was cumbersome due to the need to manually overlay standard curves on plots of original life tables. However, since the advent of computers with sophisticated graphical capabilities, visual curve matching has become easier and more efficient. As a result, in recent decades the advantages of visual curve matching have made it more prominent and it is used by most depreciation analysts.

ORS Witness D. Garrett discusses advantages of mathematical curve matching in his testimony, including his opinion that it promotes "objective, unbiased results."[7] While it is true that mathematical curve matching provides a numerical value on which the "fit" of a curve can be assessed, ORS Witness D. Garrett does not discuss the disadvantages of mathematical curve matching or that mathematical curve matching can also introduce biases. One of the disadvantages of mathematical curve matching is that it treats every data point within a range of fit equally. Different data points are typically based on

[7] D. Garrett at 14:17.

different levels of data and different ages (e.g., older data points typically are based on much smaller levels of investment than earlier data points). There is not a good way to de-emphasize data irregularities when performing mathematical curve matching, other than to exclude older data points entirely.

Mathematical curve matching can also introduce biases due to the nature of the calculations. Mathematical fitting indicators are typically calculated by squaring the differences between the OLT points and a given Iowa curve. As a result, the mathematical curve fitting routine will amplify larger differences between the Iowa curve and OLT. Because data irregularities are often common towards the end of the curve when smaller amounts of data are available, the real-world result is that mathematical curve matching will amplify less meaningful deviations towards the end or "tail" of the curve. That is, differences in curve fitting indicators are often the result of data irregularities and do not provide as meaningful of an indication of the historical life indications. For this reason, if proper care is not taken when interpreting the results, mathematical curve fitting can mislead the analyst into selecting a curve that is not representative of the predominant mortality characteristics of the depreciable group studied or mislead the analyst into recommending a curve that is not truly representative of the entire life cycle.

Q. GIVEN ALL OF THE CONSIDERATIONS DISCUSSED ABOVE, HOW DO YOU APPROACH THE CURVE FITTING PROCESS?

A. I believe that both mathematical and visual curve fitting should be used. Using both approaches enhances the information available to the analyst and aids in developing the most reasonable forecast. Importantly, the analyst should also understand the advantages and disadvantages of both approaches so as to not be misled by the results.

Q. DOES THE USE OF JUDGMENT ALSO APPLY TO THE ANALYSIS OF HISTORICAL DATA CURVE MATCHING PROCESS?

A. Yes. There are numerous reasons why informed judgment must also be applied to the mathematical processes of analyzing historical data, including the availability and limitations of the historical data; the interpretation of trends in the data; the interpretation of data irregularities; which data points to include or emphasize in mathematical or visual curve matching; and whether the curve fitting results are reasonable for the types of assets studied. That judgment is necessary when evaluating the statistical analysis which is also explained by NARUC. For example, when discussing a stub (or incomplete) survivor curve, NARUC states:

> The longer the stub, the more reliable the resulting curve fit and extension. As a result, the analyst may be forced to choose between a more reliable longer stub, which by necessity reflects older data, and a less reliable shorter stub, which reflects more recent vintages and, therefore, is more likely to reflect the future.[8]

NARUC also presents a discussion of "Data Irregularities," which are explained as follows:

> Property that exhibits homogeneous life characteristics produces smooth survivor curves. Many of a utility's property accounts, however, have experienced change in the forces of retirement due to, for example, changes in a utility's services or capital budgets. These accounts may exhibit a number of data irregularities. For example, the survivor curves may look like stair steps as the different changes take effect. Extended leveling-off periods may result from delayed booking of retirements during an accounting system conversion. Irregularities at the older ages of the survivor curve often result from inadequate exposures.[9]

[8] National Association of Regulatory Utility Commissioners, *Public Utility Depreciation Practices*, 1996, p. 129.

[9] National Association of Regulatory Utility Commissioners, *Public Utility Depreciation Practices*, 1996, p. 122.

NARUC explains certain types of occurrences in more detail, such as "Bimodality" (or "the presence of two peaks on the retirement frequency curve"). Also discussed is the use of a "T-Cut" (or "truncation cut"), in which data points from an observed life table are excluded from mathematical curve fitting (for visual curve fitting, data points can be ignored in a similar manner). NARUC's explanation again illustrates the importance of judgment:

> Careful selection of a T-Cut can greatly enhance the reliability of the resulting analysis. Conversely, since the use of a T-Cut involves truncating the observed data, careless selection can impair the reliability of subsequent work.[10]

Read in its entirety, this section of *Public Utility Depreciation Practices* should make clear the need for judgment with regard to numerous decisions when performing the statistical analysis. Judgment must be exercised throughout the process in order to determine the most appropriate and reasonable estimate.

C. <u>DESC's Estimates Are Reasonable; ORS's Are Not</u>

Q. ARE THERE ANY DIFFERENCES IN THE MATHEMATICAL CURVE FITTING PERFORMED BY ORS Witness D. GARRETT AND BY YOU?

A. Yes. While we both generally use a sum of squares difference approach to calculate mathematical fitting indicators, there is a significant and material distinction that adds value and reliability to my approach. ORS Witness Garrett simply sums the squares of difference to arrive at the numbers he cites in his testimony. However, this approach does not normalize the fitting indicators to the number of data points included. My mathematical results incorporate this normalization aspect to develop a figure referred to as the residual

[10] National Association of Regulatory Utility Commissioners, *Public Utility Depreciation Practices*, 1996, p. 122.

measure. Similar to ORS Witness D. Garrett's fitting indicator, the smaller the residual measure the better the mathematical fit.

ORS Witness D. Garrett also references using a 1% of exposures threshold to perform additional mathematical curve fitting. I also will often analyze this threshold for mathematical curve matching, but that does not mean that it should be used systematically on every account. While ORS Witness D. Garrett claims to not rely on mathematical results in choosing his curves, his only real justification for selecting different curves than DESC is that he chooses a curve with a lower sum-of-squared differences (SSD) relating to the OLT for each account with data points only relating to ages that have exposures within the 1% threshold. When reading ORS Witness D. Garrett's account by account description, it appears that mathematical curve fitting was the only factor upon which he based his estimates.

Q. ARE THERE ADDITIONAL PROBLEMS WITH ORS WITNESS D. GARRETT'S APPROACH TO CURVE FITTING?

A. Yes. I do not agree that one should have a strict rule as to when to exclude or de-emphasize data points from curve fitting. Instead, each account should be reviewed on a case-by-case basis.

Q. HOW DOES ONE DETERMINE WHICH DATA POINTS SHOULD BE EXCLUDED OR GIVEN LESS EMPHASIS IN THE ANALYSIS?

A. Informed judgment is required to make such a determination, but several factors should be considered. One factor is the dollar level of exposures for later ages. As ORS Witness D. Garrett points out in his testimony, later ages are normally given less weight in the analysis when there are far fewer exposures available than for earlier parts of the curve. Often, once exposures hit 1% or less of the exposures at age 0 the data becomes less reliable than data from earlier ages. However, this is not always the case. Thus, while the 1% cutoff is a general guideline that can be explored and analyzed by the analyst when deciding where to make a T-Cut of the OLT curve, cutting every OLT curve at 1% of exposures and choosing the best mathematical fit to those data points is not an appropriate way to conduct life analysis and should be rejected as unreliable.

Another factor to consider is the ages where the percent surviving ranges from 80% to 20%. These data points are considered to provide the most significant retirement activity and the most representative of the survivor characteristics for a life table. This is because the middle portion of the curve is where the majority of retirements occur. There are relatively few retirements at the "head" of the curve, and relatively few retirements at the "tail". In the development of survivor curves for Bulletin 125 of the Iowa Engineering Experiment Station, Robley Winfrey (who developed the Iowa Survivor curves) provides analysis showing that when performing curve fitting, the emphasis should be placed not on the first 20% of the curve or the last 20%, but rather on the information in the middle years. Mr. Winfrey's analysis is based on the probable error involved in fitting a smooth survivor curve to an observed life table with varying percentages surviving. He concludes:

> When survivor curves are to be classified according to the 18 types and the probable average life to be determined, it is recommended that more weight be given to the middle portion of the survivor curve, say that between 80 and 20 percent surviving, then to the forepart or extreme lower end of the curve. The inner section is the result of greater numbers of retirements and also it covers the period most likely the normal operation of the property.[11]

[11] Bulletin 125, Iowa Engineering Experience, Winfrey, Robley, 1935, page 91.

In summary, there are a number of factors to be considered and these should be reviewed based on the specifics of each account. Additionally, visual curve matching can allow one to give more or less consideration to some ranges of data points, even if these points are not excluded from the analysis. Further, arbitrarily cutting every OLT curve at 1% of exposures and choosing the best mathematical fit to those data points is not a reliable way to conduct life analysis and should be rejected. I will discuss these considerations for each account at issue in the next section.

D. <u>Account by Account Analysis</u>

1. ***<u>Account 355 – Poles and Fixtures</u>***

Q. WHAT DID THE PARTIES PROPOSE FOR SERVICE LIFE ESTIMATES FOR THIS ACCOUNT?

A. DESC, based on my study, proposed a 53-S1 survivor curve in the Depreciation Study. ORS witness Garrett proposed a longer service life and recommends the 59-L1.5 survivor curve.

Q. WHAT REASONS DOES ORS WITNESS D. GARRETT GIVE FOR RECOMMENDING A LONGER SERVICE LIFE THAN YOUR ESTIMATE?

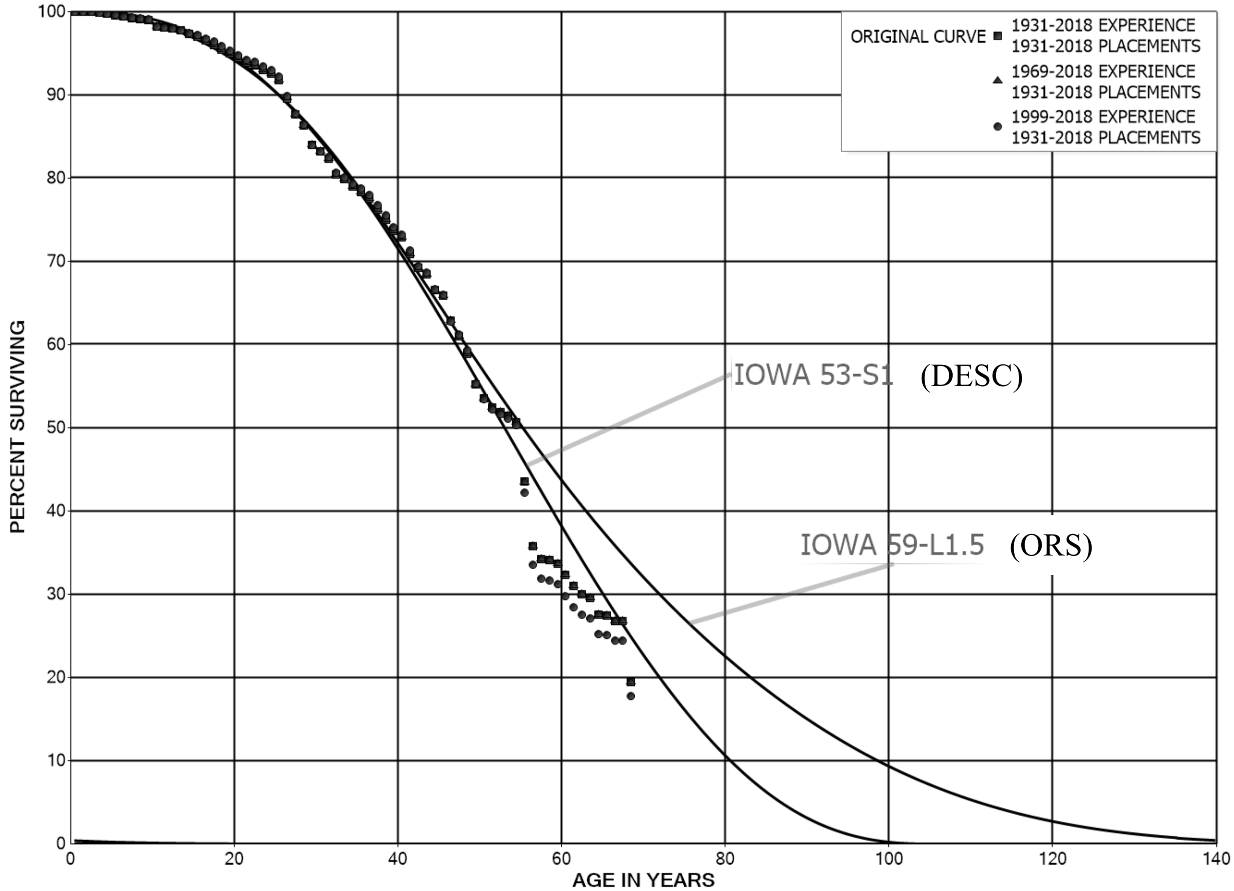
A. ORS Witness D. Garrett acknowledges that both recommended curves provide relatively close fits to the majority of the OLT curve from a visual perspective. His reason for suggesting the 59-L1.5 over the 53-S1 is mathematical fit. Based on his testimony, his mathematical curve fitting is based on the data points that are within 1% of the beginning exposures. As discussed in prior sections of this testimony, one should not solely rely on mathematical results when choosing a survivor curve estimate. Additionally, when one considers additional data points, the data clearly reflects and supports the reasonableness and accuracy of my estimate. ORS Witness D. Garrett's estimate clearly does not represent the life characteristics of transmission poles beyond age 55.

Q. PLEASE PROVIDE REASONS WHY YOUR ESTIMATE MORE ACCURATELY REPRESENTS THE TRUE SERVICE LIFE THAN THAT PROPOSED BY ORS WITNESS D. GARRETT.

A. ORS Witness D. Garrett's has completely ignored the portion of the original curve after the age of 47 during which relevant retirement activity has taken place. When a more significant portion of the original curve is displayed (as in Figure 2 below and the Depreciation Study), ORS Witness D. Garrett's proposed 59-L1.5 survivor curve is an obviously less appropriate selection than the DESC proposed 53-S1 survivor curve.

Figure 2 below provides a comparison of the OLT curve data points included in the deprecation study and the survivor curve estimates for DESC and the ORS. The figure also shows more recent experience bands which was considered in the study. When considering these data points, which are in my judgment the most representative of the historical data, the 53-S1 curve has a lower residual measure than the 59-L1.5 proposed by ORS Witness D. Garrett. This means that the curve proposed by DESC is a better mathematical fit of the relevant data points than the curve proposed by ORS Witness D. Garrett. When visually analyzing the OLT curve, it can be seen that the DESC proposed 53-S1 survivor curve accounts for the trend of increasing retirements towards the end of the curve more accurately than the 59-L1.5 survivor curve. The 59-L1.5 begins to trail off away from the OLT curve just past age 55, while the 53-S1 follows more closely with the trend of retirements through age 68 which is another 13 years of relevant retirement activity that is completely ignored by ORS Witness D. Garrett. Additionally, the L1.5 type curve estimates a reduction of retirements as assets age beyond 60 and some will be expected to stay in service until age 150, which is simply an unreasonable expectation

Figure 2: Account 355 Poles and Fixtures – Comparison of OLT Curve with DESC and ORS Survivor Curve Estimates



2. ***Account 355.5 – Poles and Fixtures - NND***

Q. HOW DID THE PARTIES PROPOSE A SERVICE LIFE ESTIMATE FOR THIS ACCOUNT?

A. This account does not yet contain sufficient data to support the development of an Iowa Curve Estimate and there is no reason to believe these poles will have different life characteristics than other transmission poles. Hence, both parties applied the life estimate they developed for the primary Account 355 – Poles and Fixtures.

3. *Accounts 356.1 and 356.2 – Overhead Conductors and Devices*

Q. WHAT SERVICE LIFE ESTIMATES HAVE THE PARTIES RECOMMENDED FOR THIS ACCOUNT?

A. DESC and I propose the 57-R2.5 survivor curve. ORS witness Garrett proposes to increase the average service life and recommends the 64-S0.5 survivor curve.

Q. PLEASE EXPLAIN THE REASON ORS WITNESS D. GARRETT PROPOSES THIS INCREASE IN SERVICE LIFE.

A. As with the other accounts, ORS Witness D. Garrett again appears to rely solely on mathematical curve fitting. ORS Witness D. Garrett states that his Iowa curve is a better mathematical fit "When applied to the relevant OLT curve".[12] Similar to his approach for Account 355, ORS Witness D. Garrett has chosen to ignore a significant portion of the original curve which represents the assets surviving past the age of 53. ORS Witness D. Garrett again appears to focus on the portions of the OLT that support his estimate rather than selecting an estimate that is reflective of the activity in the account. In sum, my estimate of 57-R2.5 is most representative of the life of the asset because it tracks a much greater portion of the OLT, while ORS proposes to increase service lives on truncated data designed to achieve a biased result. Clearly, ORS Witness D. Garrett has ignored the historical data beyond age 60 in an effort to increase the service life and reduce depreciation expense with a biased outcome.

Figure 3 below provides a comparison of the OLT curve data points included in the deprecation study and the survivor curve estimates for DESC and the ORS. The figure also shows more recent experience bands which were considered in the study. When

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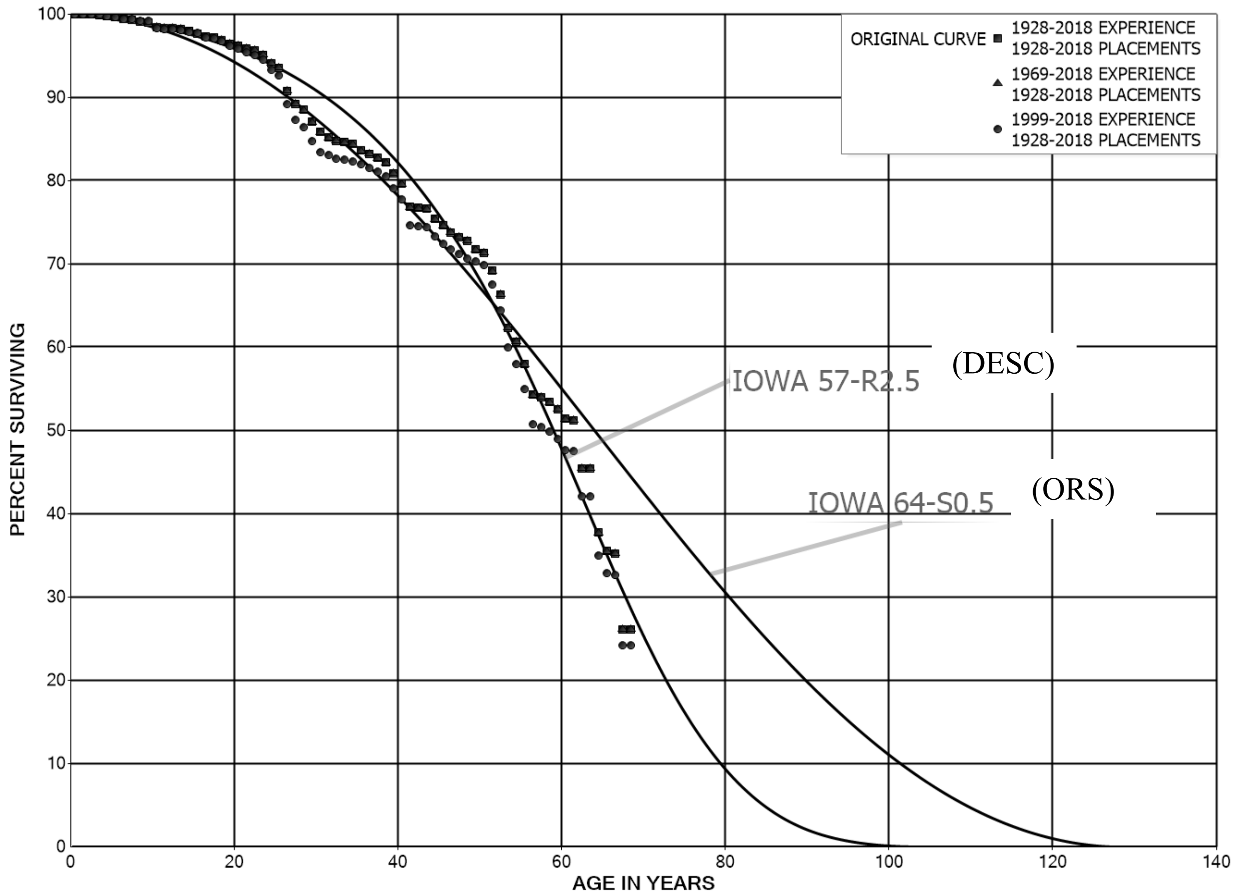
[12] D. Garrett at 24: 3

considering these data points, which are in my judgment the most representative of the historical data, the 57-R2.5 curve has a lower residual measure than the 64-S0.5 proposed by ORS Witness D. Garrett. This means that the curve proposed by DESC more accurately reflects a mathematical fit of the relevant data points than the curve proposed by ORS Witness D. Garrett. When visually analyzing the OLT curve, it can be seen that the DESC proposed 57-R2.5 survivor curve accounts for the trend of increasing retirements towards the end of the curve, when age becomes a stronger factor, more accurately than the 64-S0.5 survivor curve. The 64-S0.5 begins to trail off away from the OLT curve just past age 55, while the 57-R2.5 follows more closely with the trend of retirements through age 67 which is 12 years of relevant retirement activity that is completely ignored by ORS Witness D. Garrett. Also, the 64-S0.5 survivor curve anticipates some conductor will remain in service and reliable until 125 years which is 20 years longer than the 57-R2.5 survivor curve.

Figure 3: Accounts 356.1 and 356.2, Overhead Conductors and Devices – Comparison of OLT Curve with DESC and ORS Proposed Survivor Curves



4. ***Account 356.5 – Overhead Conductors and Devices - NND***

Q. HOW DID THE PARTIES PROPOSE A SERVICE LIFE ESTIMATE FOR THIS ACCOUNT?

A. This account does not yet contain sufficient data to support the development of an Iowa Curve Estimate. Hence, both parties applied the life estimate they developed representing Accounts 356.1 and 356.2, Overhead Conductors and Devices.

5. *Account 365 – Overhead Conductors and Devices*

Q. WHAT SERVICE LIFE ESTIMATES HAVE THE PARTIES RECOMMENDED FOR THIS ACCOUNT?

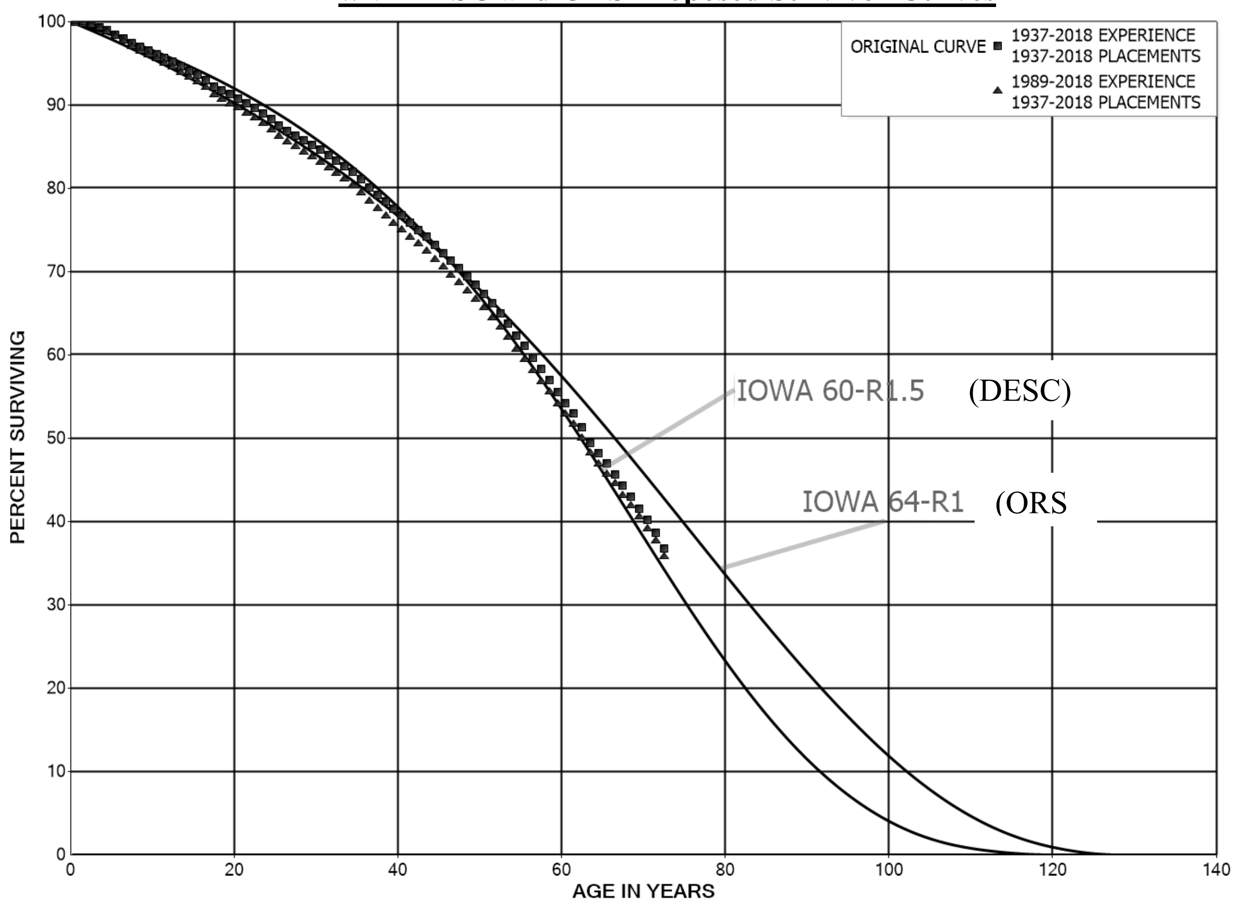
A. DESC and I propose the 60-R1.5 survivor curve. ORS witness Garrett proposes to increase the average service life and recommends the 64-R1 survivor curve.

Q. PLEASE EXPLAIN THE REASON ORS WITNESS D. GARRETT PROPOSES THIS INCREASE IN SERVICE LIFE.

A. As with the other accounts, ORS Witness D. Garrett again appears to eliminate a significant portion of the OLT reflecting relevant retirement activity. ORS Witness D. Garrett states that his Iowa curve is a better mathematical fit to the "statistically relevant data points" of the OLT curve. However, the data points ORS Witness D. Garrett has ignored are reflecting regular retirement activity that is representative of these assets past the age of 56. ORS Witness D. Garrett again focuses on the portions of the OLT that support a longer life estimate rather than selecting an estimate that is reflective of the activity in the Account. My estimate of 60-R1.5 is reasonable and represents the life of the assets for a greater portion of the OLT, while, as before, ORS Witness D. Garrett's selection of 64-R1 estimates the life of the assets from a less reliable portion of the OLT ORS Witness D. Garrett's reliance on a shorter portion of the OLT is particularly misleading when estimating a well-established asset class with considerable data to review.

Figure 4 below provides a comparison of the OLT curve data points included in the deprecation study and the survivor curve estimates for DESC and the ORS. The figure also shows a more recent experience band which was considered in the study. When considering these data points, which are in my judgment the most representative of the historical data, the 60-R1.5 curve has a lower residual measure than the 64-R1 proposed by ORS Witness D. Garrett. This means that the curve proposed by DESC is a better mathematical fit of the relevant data points than the curve proposed by ORS Witness D. Garrett. When visually analyzing the OLT curve, it can be seen that the DESC proposed 60-R1.5 survivor curve accounts for the trend of increasing retirements towards the end of the curve more accurately than the 64-R1 survivor curve. The 64-R1 begins to trail off away from the OLT curve just past age 55, while the 60-R1.5 follows more closely with the trend of retirements through age 73 which is 18 years of relevant retirement activity that is completely ignored by ORS Witness D. Garrett.

<u>Figure 4: Account 365, Overhead Conductors and Devices – Comparison of OLT Curve with DESC and ORS Proposed Survivor Curves</u>



6. ***Account 368 – Line Transformers***

Q. WHAT SERVICE LIFE ESTIMATES HAVE THE PARTIES RECOMMENDED FOR THIS ACCOUNT?

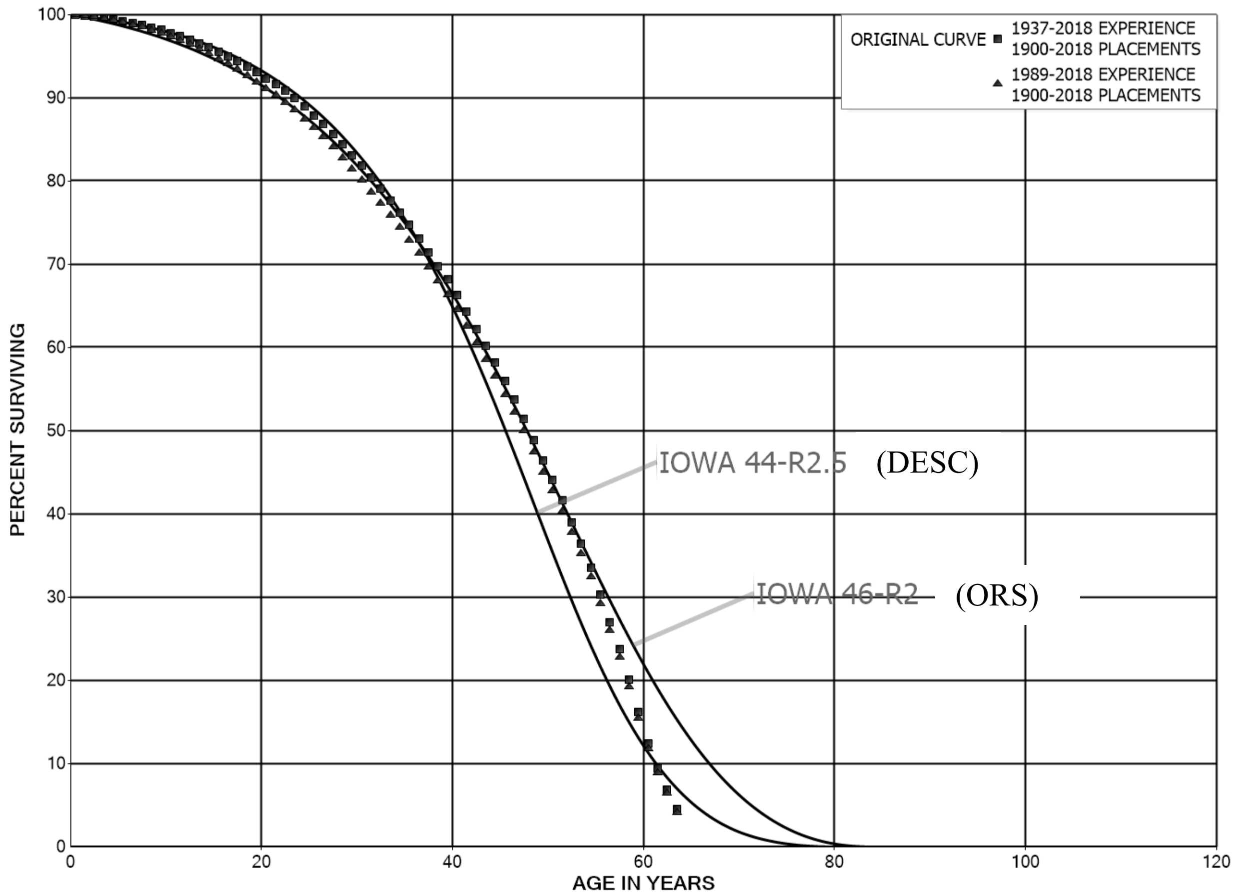
A. DESC and I propose the 44-R2.5 survivor curve. ORS Witness D. Garrett proposes to increase the average service life and recommends the 46-R2 survivor curve.

Q. PLEASE EXPLAIN THE REASON ORS WITNESS D. GARRETT PROPOSES THIS INCREASE IN SERVICE LIFE.

A. Again, ORS Witness D. Garrett is proposing a life estimate based solely on a statistical analysis. When viewing the comparison provided in Figure 5, ORS Witness D. Garrett's proposed survivor curve of 46-R2 is a better statistical file to the data points of the OLT than is the 44-R2.5 survivor curve proposed by DESC. ORS Witness D. Garrett's lack of applying any information related to DESC's future plans related to these assets is evident in this case. During discussions with DESC's management team, I learned DESC's plan is to continue to replace older assets in this account with either newer technology assets or assets necessary to accommodate higher load needs. Additionally, the newer assets will have less early age retirements. The 44-R2.5 survivor curve proposed by DESC reflects a recovery pattern consistent with the DESC's future plans and the anticipated patterns associated with the newer technology assets. ORS Witness D. Garrett's proposed 46-R2 is solely reflective of past activity and incorporates no reflection of the company's future plans or the recovery patterns associated with newer or different technology.

Figure 5 below provides a comparison of the OLT curve data points included in the deprecation study and the survivor curve estimates for DESC and the ORS. The figure also shows a more recent experience band which was considered in the study. The comparison of DESC's proposed 44-R2.5 survivor curve to ORS Witness D. Garrett's proposed 46-R2 survivor curve displays ORS Witness D. Garrett's disregard of DESC's future plans or expectation that a higher level of retirements will occur in the future from age 50 to age 60. Therefore, because ORS Witness D. Garrett's estimate for this account does not consider the future, as analysts are trained and instructed to do, his estimate should be rejected as unreliable and unreasonable.

<u>Figure 5: Account 368, Line Transformers – Comparison of OLT Curve with DESC and ORS Proposed Survivor Curves</u>



7. *Account 369 – Services – Overhead*

Q. WHAT SERVICE LIFE ESTIMATES HAVE THE PARTIES RECOMMENDED FOR THIS ACCOUNT?

A. DESC and I propose the 70-R3 survivor curve. ORS Witness D. Garrett proposes to increase the average service life and recommends the 75-R3 survivor curve.

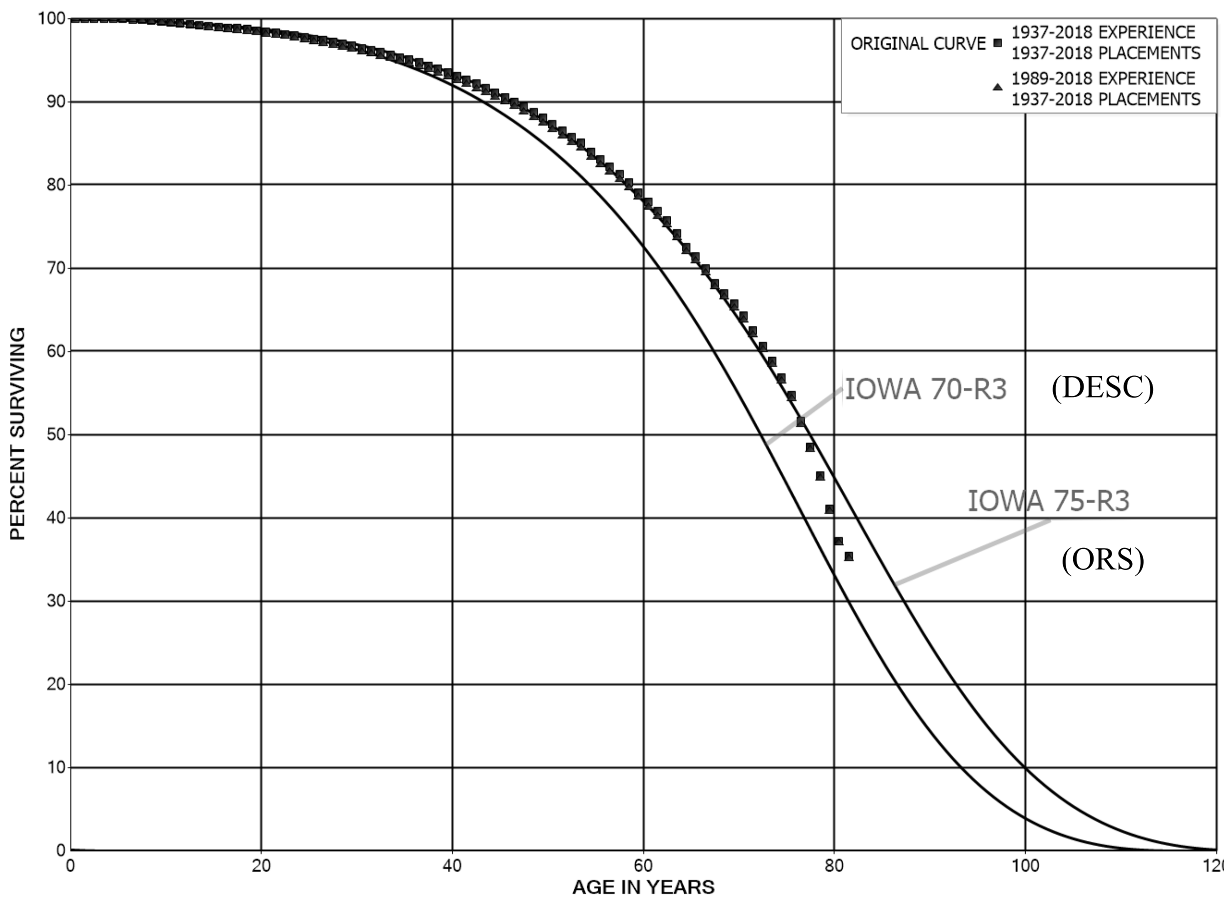
Q. PLEASE EXPLAIN THE REASON ORS WITNESS D. GARRETT PROPOSES THIS INCREASE IN SERVICE LIFE.

A. Again, ORS Witness D. Garrett's proposed 75-R3 claiming it is a better statistical fit to the data points of the OLT. However, the 70-R3 survivor curve proposed by DESC already represents a 5-year extension of the 65-year average service life approved for DESC in the prior Depreciation Study. The average service life of 70 years proposed with the 70-R3 survivor curve is already above the upper end of the 50 to 65-year average service life range proposed for most electric utilities in the industry. ORS Witness D. Garrett's focus on his purely statistical analysis has again led him to the development of an unreasonable proposed life estimate.

Figure 6 below provides a comparison of the OLT curve data points included in the depreciation study and the survivor curve estimates for DESC and the ORS. The figure also shows a more recent experience band which was considered in the study. While there is no argument that ORS Witness D. Garrett's proposed 75-R3 survivor curve is a better visual and statistical fit to the data points of the OLT, it should be remembered that the point of a forecast is to present a life estimate that is as consistent as possible with what is anticipated to take place moving forward or in the future. ORS Witness D. Garrett's proposal is merely a representation of what has taken place in the past. ORS Witness D.

Garrett's life estimation does not consider the fast-changing demands and needs of the customers which will increase as services get older which is already apparent as the original curve drops below ORS Witness D. Garrett's estimate at age 77. Thus, his estimate should by rejected as not reflecting or taking into account the future needs of the system and its customers.

<u>Figure 6: Account 369, Services - Overhead – Comparison of OLT Curve with DESC and ORS Proposed Survivor Curves</u>



8. *<u>Account 369.1 – Services – Underground</u>*

Q. WHAT SERVICE LIFE ESTIMATES HAVE THE PARTIES RECOMMENDED FOR THIS ACCOUNT?

A. DESC and I propose the 70-S3 survivor curve. ORS Witness D. Garrett proposes to increase the average service life and recommends the 80-S3 survivor curve.

Q. PLEASE EXPLAIN THE REASON ORS WITNESS D. GARRETT PROPOSES THIS INCREASE IN SERVICE LIFE.

A. ORS Witness D. Garrett provides no explanation in his testimony as to why he believes his proposed 80-S3 survivor curve is superior to the 70-S3 survivor curve proposed by DESC. In fact, ORS Witness D. Garrett states in his testimony that the same criticism he makes against the DESC proposed 70-S3 is also applicable to his proposed 80-S3 survivor curve.[13] The only support ORS Witness D. Garrett provides for increasing the proposed average service life for this account is that he states "DESC has not met its burden to make a convincing showing that its proposed depreciation rate for this account is not excessive."[14] Given ORS Witness D. Garrett does not define "excessive" and does not state whether his proposed depreciation rate for this account of 1.44% would fall below a depreciation rate that is defined as excessive, one can only conclude that ORS Witness D. Garrett's only desire is to propose a survivor curve that produces a lower level of depreciation expense. Proposing depreciation recovery patterns using this line of logic is nothing short of irresponsible. The 70-S3 survivor curve proposed by DESC is already reflecting a proposed average service life that is very conservative when compared to the average service life range of 50 to 60 years proposed for the majority of electric utilities in the industry. ORS Witness D. Garrett's proposal to increase the average service life

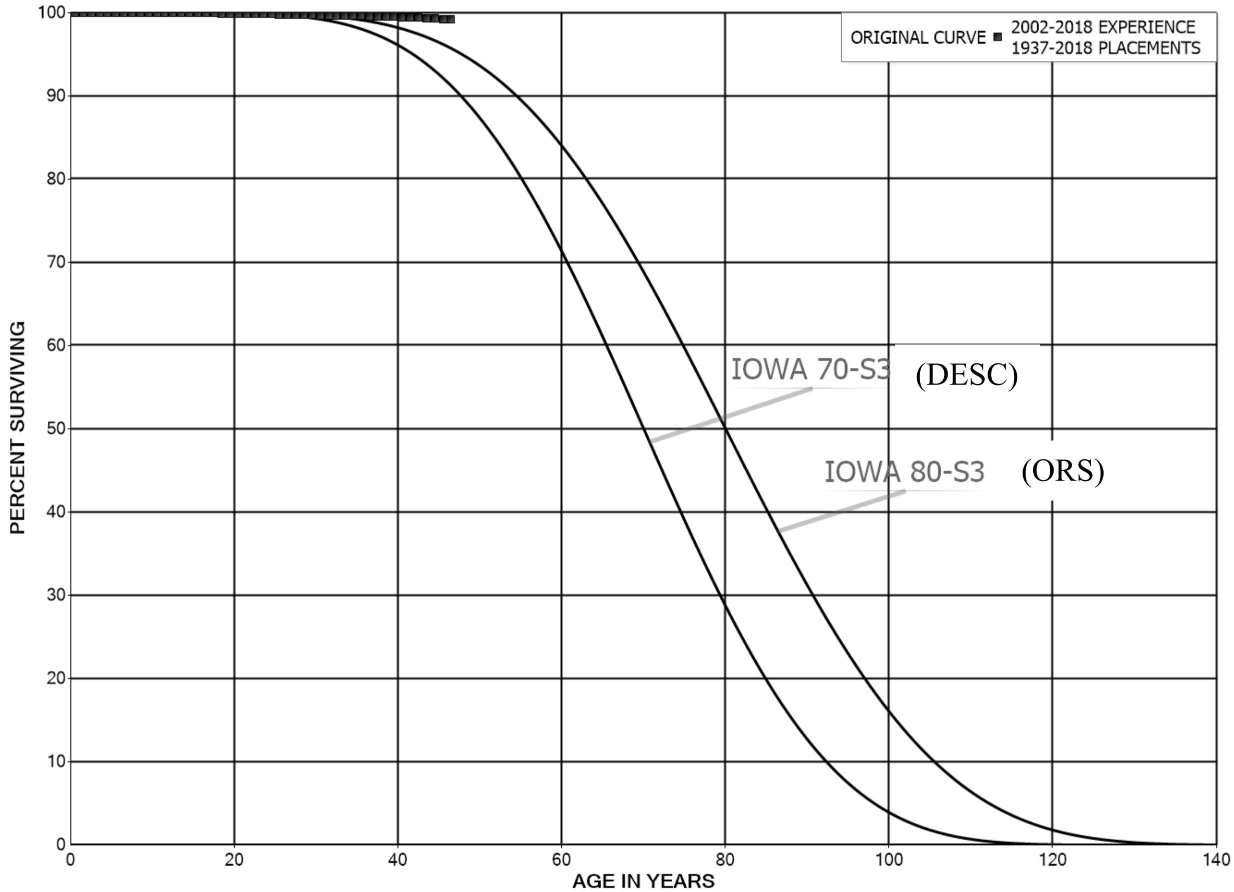
[13] D. Garrett at 33:1-2

[14] D. Garrett at 33:4-5

beyond 70 years to 80 years simply displays his lack of awareness to or complete disregard for what is representative of these types of assets within the industry.

Figure 7 below provides a comparison of the OLT curve data points included in the deprecation study and the survivor curve estimates for DESC and the ORS. As is seen in the chart, the lack of retirement activity does not allow for a conclusive statistical analysis. When this happens, it is the responsibility of the analyst to employ judgment when proposing a life estimate. The 70-S3 survivor curve proposed by DESC is conservative when compared to the industry range of proposed lives referenced above. ORS Witness D. Garrett's proposal to lengthen the average service life even further is simply irresponsible. ORS Witness D. Garrett's 80-year average life anticipates that some underground customer services will stay in use for 130 years, which is simply not a reasonable and trustworthy expectation.

Figure 7: Account 369.1, Services - Underground – Comparison of OLT Curve with DESC and ORS Proposed Survivor Curves



9. ***Account 373 – Street Lighting and Signal Systems***

Q. WHAT SERVICE LIFE ESTIMATES HAVE THE PARTIES RECOMMENDED FOR THIS ACCOUNT?

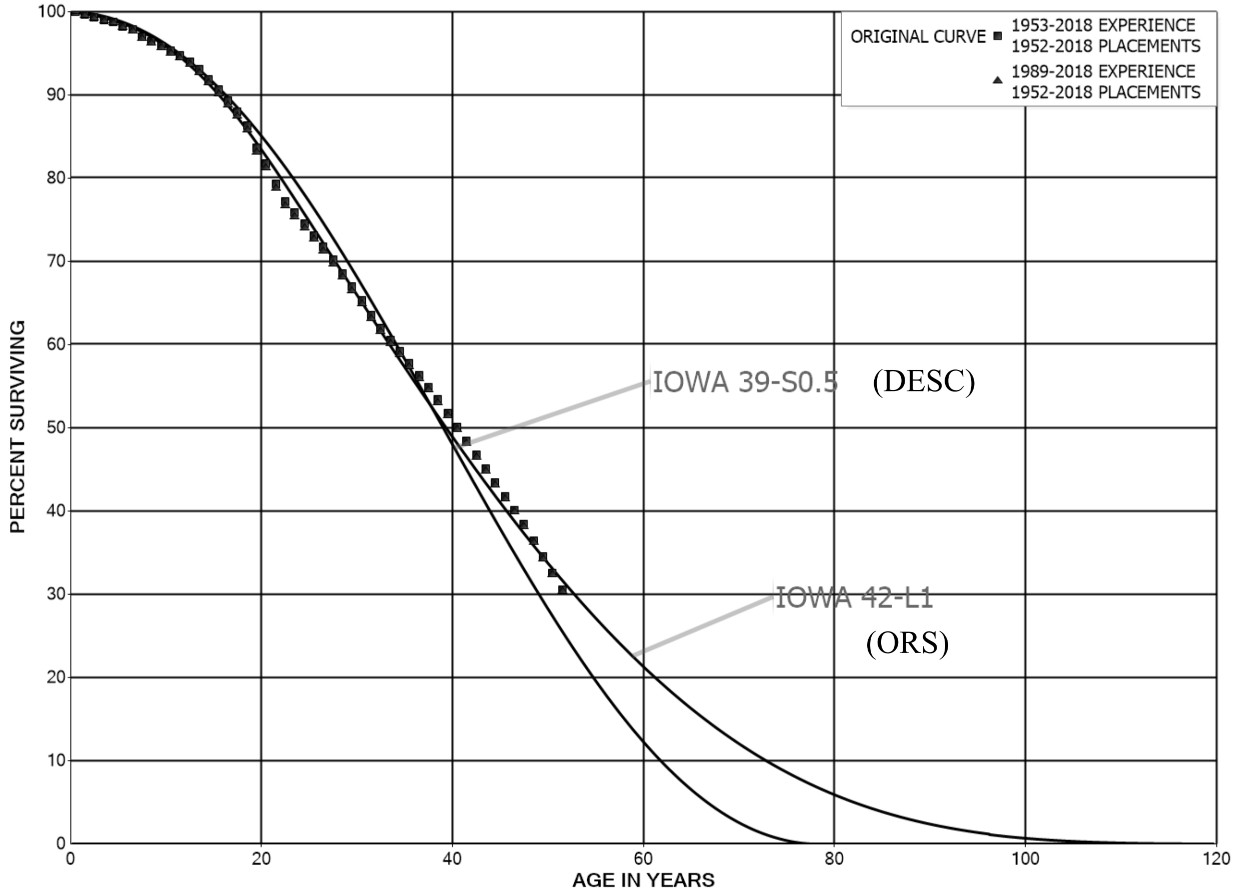
A. DESC and I propose the 39-S0.5 survivor curve. ORS witness Garrett proposes to increase the average service life and recommends the 42-L1 survivor curve.

Q. PLEASE EXPLAIN THE REASON ORS WITNESS D. GARRETT PROPOSES THIS INCREASE IN SERVICE LIFE.

A. For this account, ORS Witness D. Garrett chooses to ignore his 1% rule and fit his proposed survivor curve to all of the data points of the OLT. Although ORS Witness D. Garrett's proposed 42-L1 survivor curve is a better statistical fit to the data points of the OLT, in this case ORS Witness D. Garrett also opts to ignore reality. ORS Witness D. Garrett has proposed a survivor curve with a maximum life in excess of 100 years. Street Lighting and Signal Systems assets are not likely to achieve a maximum age even close to 100 years let alone exceed 100 years. The 39-S0.5 survivor curve proposed by DESC, although a slightly lesser statistical fit to the data points of the OLT is a much better representation of the recovery pattern to be expected for these assets in the future. Although the 39-S0.5 survivor curve proposed by DESC does begin to deviate from the data points of the OLT around age 37, this is reflective of the future retirements that will be made as DESC transitions to a higher concentration of LED lighting assets and the corresponding other assets in the account such are cross arms and poles. DESC's transition to LED assets is yet another fact ORS Witness D. Garrett has ignored when proposing a recovery pattern with a maximum life exceeding 100 years.

Figure 8 below provides a comparison of the OLT curve data points included in the deprecation study and the survivor curve estimates proposed by DESC and the ORS. The figure also shows a more recent experience band which was considered in the study. When considering these data points and the asset retirement plans of DESC associated with the transition to LED lighting, the 39-S0.5 is a much better representation of the future recovery pattern expected for DESC's Street Lighting and Signal System assets than is ORS Witness D. Garrett's proposed 42-L1 survivor curve.

Figure 8: Account 373, Street Lighting and Signal Systems – Comparison of OLT Curve with DESC and ORS Proposed Survivor Curves



III. NET SALVAGE

A. Introduction

Q. WHAT IS NET SALVAGE?

A. Net salvage, as used in depreciation, is defined as gross salvage less cost of removal. When an asset is retired it may have scrap or reuse value, which is gross salvage. There is also a cost to retire the asset. For example, the retirement of a distribution pole typically requires a multiple person crew and heavy equipment to remove the pole from the ground and cut the pole for disposal. There also may be disposal costs for the pole. If the costs to remove the equipment from service are greater than the salvage value of the asset, then the net salvage is referred to as negative net salvage.

Q. SHOULD NET SALVAGE BE DETERMINED AS AN ESTIMATE OF THE COST TO RETIRE AN ASSET TODAY OR AS THE FUTURE COST TO RETIRE AN ASSET AT THE TIME OF ITS EXPECTED RETIREMENT?

A. Net salvage is estimated as the cost to retire an asset, net of any gross salvage, at the time the asset is expected to be retired. Net salvage is not estimated as today's cost to retire an asset. The reason for this is that if today's costs were estimated, then the application of straight-line depreciation would typically fail to recover the full cost to retire the asset because costs tend to increase over time.

Q. HAS THIS COMMISSION CONTINUALLY RULED ON THE CONCEPT OF A NET SALVAGE ACCRUAL AS PRESENTED IN MY DEPRECIATION STUDY?

A. Yes. The Commission has consistently concluded that estimating net salvage as the future costs to retire an asset based on the methodology presented in my Depreciation Study is consistent with authoritative texts and depreciation practices. This concept applies to both mass property accounts, which there is no opposition, and the full net salvage amount for generating facilities.

An example by an authoritative text, the National Association of Regulatory Utility Commissioners' ("NARUC") *Public Utility Depreciation Practices states:*

> Under presently accepted concepts, the amount of depreciation to be accrued over the life of an asset is its original cost less net salvage. <u>Net salvage is the difference between gross salvage that will be realized when the asset is disposed of and the costs of retiring it.</u>[15]

[15] Sub 1146 Order at p. 174, citing NARUC at p. 18. (Emphasis added in Commission order)

B. Proper Net Salvage Methodology

Q. HOW IS NET SALVAGE ESTIMATED IN A DEPRECIATION STUDY?

A. Net salvage estimates are expressed as a percentage of the original cost retired. For example, if an account has a net salvage estimate of negative 50%, then a $1,000 asset would be expected to, on average, cost $500 to retire, net of any gross salvage. The method of determining the estimated net salvage percent depends on the type of property. For power plants, the estimate has typically been the same as mass property. However, when terminal net salvage is available based on a decommissioning study, with additional net salvage incorporated for interim retirements (i.e., those that occur prior to the final retirement of the plant), then a weighted net salvage is more reasonable. The decommissioning costs are typically estimates of the cost to retire a facility today, and therefore need to be adjusted to estimate the cost that will be incurred in the future when the plant is actually retired.

For mass property accounts such as those for transmission and distribution plant, net salvage estimates are based in part on statistical analyses of historical net salvage data for past retirements and expectations of costs into the future. In this analysis, net salvage (as well as its components of gross salvage and cost of removal) are expressed as a percentage of retirements. This approach, which is widely accepted in the industry and supported by depreciation textbooks, is referred to as the traditional method.

Q. IS RECOVERING THE FUTURE COST OF NET SALVAGE CONSISTENT WITH THE UNIFORM SYSTEM OF ACCOUNTS?

A. Yes. The Uniform System of Accounts ("USOA") specifically defines net salvage as follows:

> 19. Net salvage value means the salvage value of property retired less the cost of removal.

Cost of removal is defined as:

> 10. Cost of removal means the cost of demolishing, dismantling, tearing down or otherwise removing electric plant, including the cost of transportation and handling incidental thereto. It does not include the cost of removal activities associated with asset retirement obligations that are capitalized as part of the tangible long-lived assets that give rise to the obligation. (See General Instruction 25).

Finally, cost is defined as (emphasis added):

> 9. Cost means the <u>amount of money actually paid</u> for property or services. When the consideration given is other than cash in a purchase and sale transaction, as distinguished from a transaction involving the issuance of common stock in a merger or a pooling of interest, the value of such consideration shall be determined on a cash basis.

Read together, these definitions make clear that the USOA specifies that cost of removal, which as part of net salvage must be recovered through depreciation expense, is the actual amount that is paid at the time of the transaction. Because net salvage will occur in the future, it is an estimate of the future cost that must be included in depreciation rates.

Q. HAS FERC CONFIRMED THAT THE ESTIMATED FUTURE NET SALVAGE COST SHOULD BE INCLUDED IN DEPRECIATION?

A. Yes. FERC has clarified that not only should future net salvage estimates include future inflation (which are recovered on a straight-line basis rather than a present value basis), but that failing to include future inflation results in intergenerational inequity:

> We affirm the Presiding Judge's finding that Entergy has demonstrated that the decommissioning cost estimate should be escalated three percent annually to the retirement dates estimated for Entergy Arkansas' steam production units. Based on the record before us, we agree with the Presiding Judge that it is reasonable for the current decommissioning costs to be inflated to reflect future

> costs of decommissioning at the time of retirement in order to avoid intergenerational inequities between current and future ratepayers.[16]

Q. PLEASE FURTHER ILLUSTRATE NARUC's *PUBLIC UTILITY DEPRECIATION PRACTICES* AND WOLF AND FITCH'S *DEPRECIATION SYSTEMS POSITION ON NET SALVAGE.*

A. NARUC Manual states on page 19:

> The sensitivity of salvage and cost of retirement to the age of the property retired is also troublesome. Due to inflation and other factors, there is a tendency for costs of retirement, typically labor, to increase more rapidly than material prices.[17]

The very next sentences on page 19 of NARUC make clear that the future costs, including the impact of inflation, should be included in depreciation:

> In an increasing number of instances, the average net salvage is estimated to be a large negative number when expressed as a percentage of original cost, sometimes in excess of negative 100%. This may look unrealistic but is appropriate and necessary so that the required cost allocation occurs.[18]

Q. PLEASE EXPLAIN FURTHER THAT NARUC AND WOLF AND FITCH SUPPORT THAT THE NET SALVAGE INCLUDED IN DEPRECIATION SHOULD REPRESENT FUTURE, NOT CURRENT, COSTS.

A. NARUC explains the following:

> [U]nder presently accepted concepts, the amount of depreciation to be accrued over the life of an asset is its original cost less net salvage. <u>Net salvage is difference between the gross salvage that will be realized when the asset is disposed of and the cost of retiring it</u>.[19] (Emphasis added)

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[16] 142 FERC ¶ 61,022 at P 175. (Emphasis added)

[17] McCullar at 28:8-12, citing *Public Utility Depreciation Practices* at 19.

[18] *Public Utility Depreciation Practices* at 19.

[19] NARUC Manual, p. 18.

Wolf and Fitch also explain that net salvage should be included in depreciation and that it should be recognized as a future cost:

> The matching principle specifies that all cost incurred to produce a service should be matched against the revenue produced. Estimated future costs of retiring an asset currently in service must be accrued and allocated as part of the current expenses.[20]

In the same paragraph, the authors are clear that inflation is part of the future cost of net salvage, stating that:

> Negative salvage is a common occurrence. With inflation, the cost of retiring long-lived property, such as a water main, may exceed the original installed cost.[21]

Wolf and Fitch then address intergenerational equity, stating:

> The accounting treatment of these future costs is clear. They are part of the current cost of using the asset and must be matched against revenue. While the current consumers would say they should not pay for future costs, it would be unfair to the future users if these costs were postponed.[22]

Finally, Wolf and Fitch argue against a present value or current value concept. The authors note that:

> Some say that although the current consumers should pay for the future costs, the future value of the payments, calculated at some reasonable interest rate, should equal the retirement cost. Studies show that the salvage is often "more negative" than forecasters had predicted.[23]

They also state that:

[20] Wolf and Fitch, p. 7.

[21] Ibid, p. 8.

[22] Ibid, p. 8.

[23] Ibid, p. 4.

In the accounting framework, depreciation is defined as an allocation process, *not* a valuation process.[24] (Emphasis in original)

Q. WHY HAVE YOU DISCUSSED NARUC'S AND WOLF AND FITCH'S POSITION ON HOW NET SALVAGE IS ESTIMATED IN A DEPRECIATION STUDY?

A. It is important to understand the concept of net salvage and the fact that the recovery of all assets should be the same. ORS Witness D. Garrett agrees with this approach for mass property accounts which leads him to agree with all the net salvage estimates and the recovery methodology in my Depreciation Study. However, his approach to terminal net salvage does not completely follow these concepts.

C. <u>Terminal Net Salvage</u>

Q. TO PROVIDE CONTEXT FOR THE RECOVERY OF TERMINAL NET SALVAGE(DECOMMISSIONING COSTS), PLEASE DISCUSS HOW THESE COSTS HAVE BEEN ADDRESSED BY UTILITIES.

A. In the context of DESC's position, I think it is important to understand the background of the recovery of terminal net salvage costs throughout the utility industry. In discussing this history, it is important to recognize that there have been two distinct, though related issues with this concept. The first is the conceptual issue as to whether net salvage, and especially terminal net salvage, should be included in depreciation rates at all. The second is the issue of how to estimate these future costs. It is important to recognize that, historically, utilities have faced resistance – at times strong resistance – to both of these issues. Thus, not only has there been the challenge of estimating future net salvage costs, including the

[24] Ibid, p. 4.

uncertainty of what would be included for these future costs, but there has also been resistance to the basic concept of recovering terminal net salvage through depreciation.

I also want to make clear that throughout my career I have supported the idea that terminal net salvage should be included in depreciation rates. As I discuss in more detail below, this has been true for many years in previous studies for DESC. I have tried to consistently apply these concepts, both for DESC and other utilities with respect to the potential retirements of power plant facilities and the eventual decommissioning of the site. However, what has changed in the recent past is the degree of precision of estimating terminal net salvage for generation facilities, which has improved as more information has become available and as the types of required decommissioning activities have become more certain.

Q. PLEASE EXPLAIN IN MORE DETAIL THE BACKGROUND OF THE RECOVERY OF TERMINAL NET SALVAGE COSTS IN THE INDUSTRY.

A. Throughout my career, the inclusion and estimation of terminal net salvage has been one of the more contentious issues in rate cases (as has the somewhat related issue of estimating the life spans of power plants). It is only relatively recently that a wider consensus has emerged on required decommissioning activities. Prior to recent years, many intervenors, commission staffs and commission orders had argued that terminal net salvage costs were not likely to be incurred. The arguments why this would be the case and the proposals varied, but generally many argued that companies' power plants were likely to operate indefinitely, that decommissioning costs were unlikely because the site could be reused, that decommissioning costs were too speculative, or that these costs should simply be recovered once they were incurred. Even to the extent that decommissioning costs were included in depreciation studies, the costs were often challenged and reduced. The uncertainty of decommissioning plants has been drastically reduced; however, the amount is still less defined.

Q. IN PRIOR CASES FOR DESC, WERE NET SALVAGE COSTS INCLUDED IN THE DEPRECIATION RATES?

A. Yes. In the depreciation studies I performed as of 2003, 2008, 2014, net salvage was estimated for all production plant accounts. That is, the depreciation studies for DESC have consistently included net salvage and the estimates for production facilities have included terminal net salvage and these depreciation studies using the identical methodology that I use in my Depreciation Study in this case have been accepted by the Commission as a necessary component of depreciation rates. The issue is not that the Company has not included terminal net salvage in its depreciation rates, but rather that the information we have today shows that the costs will be higher than previously anticipated.

Q. DID THE NET SALVAGE ESTIMATES IN PRIOR DESC STUDIES INCLUDE TERMINAL NET SALVAGE?

A. Yes. However, the terminal net salvage costs were not based on a decommissioning study. Due to factors such as the uncertainty of decommissioning costs, the tasks involved in decommissioning, and the timing of these costs, the Company did not have formal decommissioning studies performed for each production facility. Instead, the estimates in those studies were based on the analysis of historical net salvage and retirements for production plant accounts. Because these estimates were applied to the entire account (rather than just the portion to be retired as interim retirements), they implicitly included a terminal net salvage component. Thus, although the specific cost elements were not defined, DESC has been recovering terminal net salvage costs since at least 2003. When specific decommissioning studies are conducted and the costs are more certain then proper inclusion at a greater level of detail would be appropriate.

D. <u>Alternative Terminal Net Salvage Calculations</u>

Q. HAS ORS WITNESS D. GARRETT ATTEMPTED TO INCLUDE A MORE PRECISE CALCULATION OF TERMINAL NET SALVAGE IN HIS TESTIMONY?

A. Yes. However, his calculations are flawed. He established a random 5 percent terminal net salvage percentage for all facilities and he does not escalate to the date of retirement which is necessary to be consistent with the concept of net salvage emphasized by authoritative texts. Additionally, his segregation of the assets between interim and terminal is not consistent with the assets that will be retired based on the current vintages of assets using the survivor curve.

Q. HAVE YOU PERFORMED THE APPROPRIATE CALCULATIONS IF YOU WERE TO UTILIZE ORS WITNESS D. GARRETT'S METHODOLOGY?

A. Yes, I have conducted alternative calculations of the weighted net salvage percentages for interim and terminal assets at each location. I have utilized this methodology in other depreciation studies when there is less speculation on the amount and type of decommissioning to be performed for each facility. The first component that is necessary is to establish a reasonable basis for the decommissioning cost. For most steam facilities a utility standard has been to expect costs to be comparable to $40/kw. The costs for other production plant are either $20/kw or $10/kw depending on the type of asset. The second component is to escalate these costs to the date of retirement which is based on the probable retirement date of the individual location. The final step is to calculate the interim net salvage component and terminal net salvage component as a percentage of the assets that are retired on an interim and terminal basis. Exhibit No. ___ (JJS-1 Rebuttal) sets forth these calculations for each generating facility. Exhibit No. ___ (JJS-2 Rebuttal) sets forth the annual depreciation expense that is appropriate if this more precise calculation was performed.

Q. HAVE YOU ALSO PERFORMED THE SAME CALCULATION FOR STEAM FACILITES UTILIZING SPECIFIC DESC ESTIMATES?

A. Yes. Given that the Canadys generating facility has been decommissioned and those costs are known, we can apply the $55/kw estimate as a standard for other DESC facilities instead of applying industry standards. The same calculations are applied to all steam facilities with the $55/kw decommissioning cost. Exhibit No. ___ (JJS-3 Rebuttal) sets forth the results of the weighted net salvage percentages for steam plants and the resulting annual expense. As you can see when using the more appropriate methodology from that of ORS Witness D. Garrett, the annual depreciation expense is much higher than what he has recommended, and much higher than DESC is seeking to recover in this case.

Q. WHY WAS THIS NOT UTILIZED IN THE DEPRECIAITON STUDY?

A. Although this methodology is more precise in nature when done properly, it was not utilized in the Depreciation Study because the decommissioning costs for each facility have not been studied and therefore the amounts were too uncertain in the absence of a decommissioning study to be included in this case. Therefore, maintaining the same methodology which has consistently been approved was deemed to be the most reasonable and conservative approach when the study was conducted.

IV. REBUT CERTAIN ISSUES RAISED BY ORS WITNESS KOLLEN

Q. DOES MR. KOLLEN PROPOSE ADJUSTMENTS TO THE DEPRECIATION STUDY AND THE RESULTING DEPRECIATION EXPENSE?

A. Yes. However, he does not conduct a depreciation study nor does he review any company plans for life characteristics or net salvage percentages. He just utilizes the estimates of ORS witness Garrett who did not complete a depreciation study either and the flaws in his analysis have been discussed above.

Q. DOES MR. KOLLEN EXCLUDE PLANT IN SERVICE FROM THE DEPRECIATION STUDY?

A. Yes. Mr. Kollen removes the plant in service and depreciation expense of transmission related assets.

Q. ARE THE TRANSMISSION ASSETS THAT MR. KOLLEN EXCLUDES OWNED BY DESC AND SERVING CUSTOMERS?

A. Yes. These transmission assets are the same as the other assets in each account with the same life and salvage characteristics.

Q. DID MR. KOLLEN CONDUCT ANY TERMINAL NET SALVAGE ANALYSES?

A. No. His entire position on depreciation related parameters are based on ORS Witness D. Garrett's position.

Q. **HAS MR. KOLLEN CONSISTENTLY SUPPORTED ALL OF THE METHODOLOGIES PROPOSED BY ORS WITNESS D. GARRETT WHEN HE EVALUATES DEPRECIATION PARAMETERS?**

A. No. Mr. Kollen has typically taken a different approach to terminal net salvage; however, he does not address why he would support a different methodology in this case.

Depreciation parameters and methodology cannot be a result-oriented exercise; you must follow standard practices in each case in order to have life estimates that are reasonable.

V. REBUT CERTAIN ISSUES RAISED BY SIERRA CLUB WITNESS STANTON

Q. DOES WITNESS STANTON CONDUCT A DEPRECIATION STUDY OR ANALYSIS REGARDING PLANT IN SERVICE

A. No.

Q. WITNESS STANTON CHALLENGES PLANT IN SERVICE INVESTMENT OVER THE LAST FEW YEARS RELATED TO COAL PLANTS. DO YOU AGREE WITH HER EXCLUSIONS?

A. No. There are many plant additions that need to be made in order for facilities to reach their expected life and some of these may be high. There are decisions and analyses that need to be made for every asset that is added or replaced. However, to exclude investment because the facility may have a short remaining life is not a reason to remove from plant in service. In many cases, plant additions are required in order for the facility to continue generating needed electricity. If the additions are not made, then the facility may not operate which would prevent DESC from meeting demand. Immediate shutdown of facilities is not an option and utilities do not have excess generation sitting in reserve to meet the demands if one facility was shut down.

Q. ARE THE ECONOMICS OF PLANT INVESTMENT MORE THAN WHAT WITNESS STANTON PRESENTS

A. Yes. The costs to maintain operations of the three generating facilities challenged by witness Stanton are continually evaluated and the most likely alternative would be to build new generation which would be at much higher cost than the amount spent in recent years on the three facilities M. Stanton considers uneconomical.

VI. CANADYS RECOVERY PERIOD

Q. HAS DOD-FEA WITNESS MARK GARRETT PROPOSED A DIFFERENT RECOVERY PERIOD FOR THE REMAINING VALUE OF CANADYS UNITS 2 AND 3?

A. Yes. DOD-FEA Witness Mark Garrett has selected a 40-year amortization period to recover all remaining costs, which has no basis. The facility has already been retired so establishing a long period of time creates a recovery pattern that is inappropriate after retirement. These costs were determined necessary at the time of actual retirement. The most appropriate recovery of these costs should be over the remaining life of the facility that was established while the facility was in service.

Q. WHAT WAS THE ORIGINAL ESTABLISHED RETIRMENT DATE?

A. The originally planned retirement date for the Canadys generating facility was 2025.

Q. DOES THE COMPANY'S PROPOSAL ACCOMPLISH RECOVERING THE COSTS OVER THIS REMAINING LIFE?

A. Essentially, yes. When the Canady's Units 2 and 3 were retired, the Company received an accounting order (Order No. 2013-649) to reclassify the carrying value of the of the units to an unrecovered plant regulatory asset account and to also record additional costs associated with the retirement to that regulatory asset account. This treatment is consistent with the instructions in the FERC Uniform System of Accounts for Account 182.2 – Unrecovered Plant and Regulatory Study Costs. The accounting order also authorized the Company to amortize the regulatory asset in an amount equal to the depreciation that was being recorded on the units prior to their retirement. This depreciation was designed to recover the costs associated with the units over their estimated remaining life. The Company estimates that at the current level of amortization and the remaining spend to finalize the retirement of the plant site, that the balance should be fully recovered around the end of 2026 although the actual level of decommissioning costs will affect the recovery period.

Q. IS THERE A REQUIREMENT THAT ASSETS BE DEPRECIATED OVER THEIR SERVICE LIVES, RATHER THAN OVER A LONGER PERIOD OF TIME?

A. Yes. General Instruction 22A of the electric USOA states that:

> Utilities must use a method of depreciation that allocates in a systematic and rational manner the service value of depreciable property over the service life of the property.

Thus, the USOA requires that depreciation recover the costs of an asset (including net salvage) over its service life. Failing to recover costs over an asset's life will result in intergenerational inequity because it will result in costs for the asset to be recovered after the asset is retired. Therefore, recovering the unrecovered investment and costs associated with the retirement over a period that closely approximates the life of the units at the time of their retirement most appropriately addresses the intergenerational equity issue.

Q. WILL DOD-FEA WITNESS M. GARRETT'S PROPOSAL RESULT IN INTERGENERATIONAL EQUITY?

A. No. In fact, it will result in inequity. As Company Witness Coffer reports in his rebuttal testimony, the Company, after the early retirement of Canadys units 2 and 3 in 2013, continued to amortize the unrecovered balance for the units at the level of depreciation expense being recorded for those units prior to their retirement. Based on this approach, the Company expects the unrecovered balance plus certain closure costs to be recovered by approximately 2026, which is consistent with the Company's original retirement date for the units of 2025. In stark contrast to the reasonable amortization period being used by the Company to recover the unrecovered costs of the units, DOD-FEA Witness M. Garrett proposes that the recovery period be extended for the unrecovered investment by 40 years. Such an extension would result in yet unborn customers paying for an asset which is unavailable to provide them with service. In my view, it is not reasonable to recover a retired asset substantially beyond its original service life under the circumstances of the early retirement of the Canadys generating facility. To do so, as Mr. M. Garrett recommends, would result in customers paying much more for the asset over a recovery period of 40 years rather than the currently planned recovery through approximately 2026. Thus, in my view, Mr. M. Garrett's recommendation should be rejected, as not being in the best interest of customers over the long term.

VII. CONCLUSION

Q. IN YOUR EXPERT OPINION, ARE THE DEPRECIATION RATES SET FORTH IN EXHIBIT NO. JJS-2 THE APPROPRIATE RATES THE COMMISSION SHOULD ADOPT IN THIS PROCEEDING FOR DESC?

A. Yes. These rates appropriately reflect the rates at which the costs of DESC's assets are being consumed over their useful lives. These rates are an appropriate basis for setting electric rates in this proceeding and for the Company to use for recording depreciation expense going forward.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 1. CALCULATION OF TERMINAL AND INTERIM RETIREMENTS AS A PERCENT OF TOTAL RETIREMENTS

LOCATION	TOTAL PROJECTED RETIREMENTS	TOTAL TERMINAL RETIREMENTS AMOUNT	TOTAL TERMINAL RETIREMENTS (%)	TOTAL INTERIM RETIREMENTS AMOUNT	TOTAL INTERIM RETIREMENTS (%)
(1)	(2)	(3)	(4)=(3)/(2)	(6)	(7)=(6)/(2)
STEAM PRODUCTION					
COPE	(550,416,271.08)	(123,133,232.18)	22.37	(427,283,038.90)	77.63
MCMEEKIN	(188,781,998.10)	(133,887,265.56)	70.92	(54,894,732.54)	29.08
URQUHART 3	(126,551,257.81)	(101,885,997.92)	80.51	(24,665,259.89)	19.49
WATEREE	(918,402,756.81)	(599,381,207.55)	65.26	(319,021,549.26)	34.74
JASPER	(107,764,541.25)	(79,028,741.35)	73.33	(28,735,799.90)	26.67
COLUMBIAN ENERGY CENTER	(100,313,061.80)	(69,453,285.29)	69.24	(30,859,776.51)	30.76
TOTAL STEAM PRODUCTION	**(1,992,229,886.85)**	**(1,106,769,729.85)**	**55.55**	**(885,460,157.00)**	**44.45**
HYDRO PRODUCTION					
FAIRFIELD	(209,649,180.81)	(41,712,103.94)	19.90	(167,937,076.87)	80.10
NEAL SHOALS	(9,068,314.52)	(7,355,941.67)	81.12	(1,712,372.85)	18.88
PARR	(12,215,614.65)	(8,700,620.97)	71.23	(3,514,993.68)	28.77
SALUDA	(380,538,278.94)	(315,751,025.45)	82.97	(64,787,253.49)	17.03
STEVENS CREEK	(15,477,707.30)	(9,915,760.59)	64.06	(5,561,946.71)	35.94
TOTAL HYDRO PRODUCTION	**(626,949,096.22)**	**(383,435,452.62)**	**61.16**	**(243,513,643.60)**	**38.84**
OTHER PRODUCTION					
COIT	(6,396,976.13)	(5,324,644.17)	83.24	(1,072,331.96)	16.76
HAGOOD UNIT 4	(38,091,507.66)	(14,694,695.29)	38.58	(23,396,812.37)	61.42
HARDEEVILLE	(3,610,768.25)	(3,610,768.25)	100.00	0.00	0.00
PARR	(12,454,262.29)	(8,903,987.71)	71.49	(3,550,274.58)	28.51
URQUHART UNITS 1,2,3 AND COMMON	(9,738,992.85)	(8,797,427.84)	90.33	(941,565.01)	9.67
URQUHART UNIT 4	(24,632,125.30)	(17,375,386.87)	70.54	(7,256,738.43)	29.46
URQUHART UNITS 5 AND 6	(264,047,301.21)	(58,092,500.66)	22.00	(205,954,800.55)	78.00
WILLIAMS-BUSHY PARK	(7,853,083.47)	(7,040,602.32)	89.65	(812,481.15)	10.35
JASPER	(399,473,723.41)	(207,777,694.80)	52.01	(191,696,028.61)	47.99
HAGOOD UNIT 5	(7,895,700.41)	(1,694,475.16)	21.46	(6,201,225.25)	78.54
HAGOOD UNIT 6	(10,261,072.72)	(2,470,443.19)	24.08	(7,790,629.53)	75.92
COLUMBIA ENERGY CENTER	(160,617,779.59)	(118,490,337.93)	73.77	(42,127,441.66)	26.23
BOEING BUILDING SOLAR PROJECT	(9,362,641.88)	(9,051,159.62)	96.67	(311,482.26)	3.33
SOLAR FARM	(32,427.97)	(31,003.73)	95.61	(1,424.24)	4.39
TOTAL OTHER PRODUCTION	**(954,468,363.14)**	**(463,355,127.54)**	**48.55**	**(491,113,235.60)**	**51.45**
TOTAL PRODUCTION	**(3,573,647,346.21)**	**(1,953,560,310.01)**		**(1,620,087,036.20)**	

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 2. CALCULATION OF WEIGHTED NET SALVAGE PERCENT

ACCOUNT	TERMINAL RETIREMENTS RETIREMENTS (%)	TERMINAL RETIREMENTS NET SALVAGE (%)	INTERIM RETIREMENTS RETIREMENTS (%)	INTERIM RETIREMENTS NET SALVAGE (%)	WEIGHTED AVERAGE NET SALVAGE %
(1)	(2)	(3)	(4)	(5)	(6)=(2)*(3)+(4)*(5)
STEAM PRODUCTION					
COPE	22.37	(50)	77.63	(37)	(40)
MCMEEKIN	70.92	(12)	29.08	(37)	(19)
URQUHART 3	80.51	(6)	19.49	(37)	(12)
WATEREE	65.26	(9)	34.74	(37)	(19)
JASPER	73.33	(24)	26.67	(37)	(27)
COLUMBIAN ENERGY CENTER	69.24	(30)	30.76	(37)	(32)
HYDRO PRODUCTION					
FAIRFIELD	19.90	(209)	80.10	(22)	(59)
NEAL SHOALS	81.12	(3)	18.88	(22)	(7)
PARR	71.23	(1)	28.77	(22)	(7)
SALUDA	82.97	(3)	17.03	(22)	(6)
STEVENS CREEK	64.06	(4)	35.94	(22)	(11)
OTHER PRODUCTION					
COIT	83.24	(8)	16.76	(20)	(10)
HAGOOD UNIT 4	38.58	(11)	61.42	(20)	(17)
HARDEEVILLE	100.00	(5)	0.00	(20)	(5)
PARR	71.49	(13)	28.51	(20)	(15)
URQUHART UNITS 1,2,3 AND COMMON	90.33	(7)	9.67	(20)	(8)
URQUHART UNIT 4	70.54	(6)	29.46	(20)	(10)
URQUHART UNITS 5 AND 6	22.00	(38)	78.00	(20)	(24)
WILLIAMS-BUSHY PARK	89.65	(8)	10.35	(20)	(9)
JASPER	52.01	(12)	47.99	(20)	(16)
HAGOOD UNIT 5	21.46	(33)	78.54	(20)	(23)
HAGOOD UNIT 6	24.08	(24)	75.92	(20)	(21)
COLUMBIA ENERGY CENTER	73.77	(15)	26.23	(20)	(16)
BOEING BUILDING SOLAR PROJECT	96.67	0	3.33	(20)	(1)

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES RELATED TO ELECTRIC AND COMMON PLANT AS OF DECEMBER 31, 2018

	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE		NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	STEAM PRODUCTION PLANT										
	CENTRAL LAB										
311.00	STRUCTURES AND IMPROVEMENTS	06-2038	80-R2	*	(40)	3,511,817.59	2,771,530	2,145,015	113,989	3.25	18.8
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2038	65-R2	*	(20)	58,757.43	54,638	15,871	890	1.51	17.8
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2038	41-R0.5	*	(3)	2,778,700.75	1,121,045	1,741,017	101,594	3.66	17.1
	TOTAL CENTRAL LAB					6,349,275.77	3,947,213	3,901,903	216,473	3.41	18.0
	COPE										
311.00	STRUCTURES AND IMPROVEMENTS	06-2071	80-R2	*	(40)	81,673,527.91	36,894,674	77,448,265	1,681,006	2.06	46.1
312.00	BOILER PLANT EQUIPMENT	06-2071	41-S0	*	(40)	346,125,882.26	175,405,012	309,171,223	11,031,370	3.19	28.0
314.00	TURBOGENERATOR UNITS	06-2071	52-S0	*	(40)	86,916,387.60	54,031,544	67,651,399	2,014,498	2.32	33.6
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2071	65-R2	*	(40)	23,796,036.35	13,185,452	20,128,999	493,150	2.07	40.8
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2071	41-R0.5	*	(40)	11,904,436.96	4,224,935	12,441,277	401,121	3.37	31.0
	TOTAL COPE					550,416,271.08	283,741,617	486,841,163	15,621,145	2.84	31.2
	MCMEEKIN										
311.00	STRUCTURES AND IMPROVEMENTS	06-2038	80-R2	*	(19)	19,020,281.58	12,861,469	9,772,666	520,938	2.74	18.8
312.00	BOILER PLANT EQUIPMENT	06-2038	41-S0	*	(19)	113,209,655.69	62,300,287	72,419,203	4,414,503	3.90	16.4
314.00	TURBOGENERATOR UNITS	06-2038	52-S0	*	(19)	40,614,429.42	24,494,362	23,836,809	1,347,324	3.32	17.7
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2038	65-R2	*	(19)	11,308,283.09	7,009,779	6,447,078	341,442	3.02	18.9
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2038	41-R0.5	*	(19)	4,629,348.32	2,321,462	3,187,463	194,036	4.19	16.4
	TOTAL MCMEEKIN					188,781,998.10	108,987,359	115,663,219	6,818,243	3.61	17.0
	URQUHART 3										
311.00	STRUCTURES AND IMPROVEMENTS	06-2035	80-R2	*	(12)	17,187,922.20	14,009,508	5,240,965	328,437	1.91	16.0
312.00	BOILER PLANT EQUIPMENT	06-2035	41-S0	*	(12)	24,785,427.19	9,403,281	18,356,397	1,346,791	5.43	13.6
314.00	TURBOGENERATOR UNITS	06-2035	52-S0	*	(12)	62,075,363.05	31,519,766	38,004,641	2,462,030	3.97	15.4
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2035	65-R2	*	(12)	17,015,472.95	4,900,691	14,156,639	891,480	5.24	15.9
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2035	41-R0.5	*	(12)	5,487,072.42	2,110,375	4,035,146	271,482	4.95	14.9
	TOTAL URQUHART 3					126,551,257.81	61,943,621	79,793,788	5,300,220	4.19	15.1
	WATEREE										
311.00	STRUCTURES AND IMPROVEMENTS	06-2045	80-R2	*	(19)	141,131,237.50	47,644,816	120,301,357	4,721,729	3.35	25.5
312.00	BOILER PLANT EQUIPMENT	06-2045	41-S0	*	(19)	595,296,474.73	238,509,483	469,893,322	21,913,024	3.68	21.4
314.00	TURBOGENERATOR UNITS	06-2045	52-S0	*	(19)	138,823,188.63	72,240,673	92,958,921	4,113,232	2.96	22.6
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2045	65-R2	*	(19)	34,975,774.21	12,588,068	29,033,103	1,176,168	3.36	24.7
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2045	41-R0.5	*	(19)	8,176,081.74	2,201,001	7,528,536	349,865	4.28	21.5
	TOTAL WATEREE					918,402,756.81	373,184,041	719,715,239	32,274,018	3.51	22.3
	JASPER										
311.00	STRUCTURES AND IMPROVEMENTS	06-2044	80-R2	*	(27)	25,965.25	0	32,976	1,322	5.09	24.9
312.00	BOILER PLANT EQUIPMENT	06-2044	41-S0	*	(27)	472,406.47	33,500	566,456	25,120	5.32	22.6
314.00	TURBOGENERATOR UNITS	06-2044	52-S0	*	(27)	100,137,639.52	26,965,187	100,209,615	4,511,397	4.51	22.2
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2044	65-R2	*	(27)	6,631,969.75	1,633,913	6,788,689	279,191	4.21	24.3
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2044	41-R0.5	*	(27)	496,560.26	75,452	555,180	25,482	5.13	21.8
	TOTAL JASPER					107,764,541.25	28,708,052	108,152,916	4,842,512	4.49	22.3
	COLUMBIA ENERGY CENTER										
311.00	STRUCTURES AND IMPROVEMENTS	12-2054	80-R2	*	(32)	4,625,000.00	4,014,906	2,090,094	60,233	1.30	34.7
312.00	BOILER PLANT EQUIPMENT	12-2054	41-S0	*	(32)	24,512,500.00	26,668,678	5,687,822	189,974	0.78	29.9
314.00	TURBOGENERATOR UNITS	12-2054	52-S0	*	(32)	69,415,284.09	68,376,799	23,251,376	730,486	1.05	31.8
315.00	ACCESSORY ELECTRIC EQUIPMENT	12-2054	65-R2	*	(32)	2,777.71	2,339	1,328	39	1.40	34.1
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	12-2054	41-R0.5	*	(32)	1,757,500.00	1,205,751	1,114,149	38,340	2.18	29.1
	TOTAL COLUMBIA ENERGY CENTER					100,313,061.80	100,268,473	32,144,769	1,019,072	1.02	31.5
	TOTAL STEAM PRODUCTION PLANT					**1,998,579,162.62**	**960,780,376**	**1,546,212,997**	**66,091,683**	**3.31**	**23.4**

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES RELATED TO ELECTRIC AND COMMON PLANT AS OF DECEMBER 31, 2018

	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE		NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	NUCLEAR PRODUCTION PLANT										
321.00	STRUCTURES AND IMPROVEMENTS	06-2062	80-R2.5	*	(3)	336,884,725.24	172,076,132	174,915,135	4,451,901	1.32	39.3
322.00	REACTOR PLANT EQUIPMENT	06-2062	60-R2.5	*	(5)	606,850,056.41	269,840,730	367,351,829	10,417,169	1.72	35.3
323.00	TURBOGENERATOR UNITS	06-2062	45-S1	*	(5)	106,865,603.52	32,788,978	79,419,906	2,925,434	2.74	27.1
324.00	ACCESSORY ELECTRIC EQUIPMENT	06-2062	55-R3	*	(1)	115,146,991.00	72,243,783	44,054,678	1,507,014	1.31	29.2
325.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2062	30-R2.5	*	(3)	160,794,365.04	49,337,206	116,280,990	6,051,594	3.76	19.2
325.10	MISCELLANEOUS POWER PLANT EQUIPMENT - CYBER	06-2062	30-R2.5	*	0	18,686,914.62	266,703	18,420,212	654,114	3.50	28.2
	TOTAL NUCLEAR PRODUCTION PLANT					**1,345,228,655.83**	**596,553,532**	**800,442,750**	**26,007,226**	**1.93**	**30.8**
	HYDRAULIC PRODUCTION PLANT										
	FAIRFIELD										
331.00	STRUCTURES AND IMPROVEMENTS	06-2128	110-R2	*	(59)	36,801,419.42	18,095,960	40,418,297	547,247	1.49	73.9
332.00	RESERVOIRS, DAMS & WATERWAYS	06-2128	125-R2.5	*	(59)	74,792,871.25	35,997,762	82,922,903	1,005,693	1.34	82.5
333.00	WATER WHEELS, TURBINES & GENERATORS	06-2128	90-S0	*	(59)	67,528,739.32	22,441,267	84,929,429	1,315,639	1.95	64.6
334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2128	50-O1	*	(59)	22,652,369.67	641,385	35,375,883	771,437	3.41	45.9
335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2128	65-R1.5	*	(59)	6,545,444.85	304,889	10,102,368	232,134	3.55	43.5
336.00	ROADS, RAIL ROADS & BRIDGES	06-2128	75-R4	*	(59)	1,328,336.30	821,221	1,290,834	36,088	2.72	35.8
	TOTAL FAIRFIELD					209,649,180.81	78,302,484	255,039,714	3,908,238	1.86	65.3
	NEAL SHOALS										
331.00	STRUCTURES AND IMPROVEMENTS	06-2055	110-R2	*	(7)	827,541.48	519,348	366,121	10,426	1.26	35.1
332.00	RESERVOIRS, DAMS & WATERWAYS	06-2055	125-R2.5	*	(7)	3,660,825.41	1,023,315	2,893,768	83,082	2.27	34.8
333.00	WATER WHEELS, TURBINES & GENERATORS	06-2055	90-S0	*	(7)	3,707,773.04	1,514,095	2,453,222	73,148	1.97	33.5
334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2055	50-O1	*	(7)	495,222.98	235,590	294,299	10,131	2.05	29.0
335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2055	65-R1.5	*	(7)	374,306.55	133,916	266,592	8,121	2.17	32.8
336.00	ROADS, RAIL ROADS & BRIDGES	06-2055	75-R4	*	(7)	2,645.06	2,109	721	21	0.79	34.3
	TOTAL NEAL SHOALS					9,068,314.52	3,428,373	6,274,723	184,929	2.04	33.9
	PARR										
331.00	STRUCTURES AND IMPROVEMENTS	06-2064	110-R2	*	(7)	1,905,616.80	367,914	1,671,096	39,003	2.05	42.8
332.00	RESERVOIRS, DAMS & WATERWAYS	06-2064	125-R2.5	*	(7)	4,805,840.61	1,825,889	3,316,360	77,471	1.61	42.8
333.00	WATER WHEELS, TURBINES & GENERATORS	06-2064	90-S0	*	(7)	2,833,820.57	692,509	2,339,679	57,403	2.03	40.8
334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2064	50-O1	*	(7)	2,033,549.58	895,591	1,280,307	38,139	1.88	33.6
335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2064	65-R1.5	*	(7)	512,589.43	163,374	385,097	9,741	1.90	39.5
336.00	ROADS, RAIL ROADS & BRIDGES	06-2064	75-R4	*	(7)	124,197.66	82,477	50,414	1,158	0.93	43.5
	TOTAL PARR					12,215,614.65	4,027,754	9,042,953	222,915	1.82	40.6
	SALUDA										
331.00	STRUCTURES AND IMPROVEMENTS	06-2082	110-R2	*	(6)	7,324,982.50	2,673,145	5,091,336	89,658	1.22	56.8
332.00	RESERVOIRS, DAMS & WATERWAYS	06-2082	125-R2.5	*	(6)	21,829,603.10	14,981,096	8,158,283	149,893	0.69	54.4
332.50	RESERVOIRS, DAMS & WATERWAYS - SALUDA BACKUP DAM	06-2082	125-R2.5	*	(6)	332,839,643.92	265,290,380	87,519,643	1,444,932	0.43	60.6
333.00	WATER WHEELS, TURBINES & GENERATORS	06-2082	90-S0	*	(6)	10,098,847.67	5,271,625	5,433,154	111,852	1.11	48.6
334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2082	50-O1	*	(6)	6,002,082.84	418,892	5,943,316	148,815	2.48	39.9
335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2082	65-R1.5	*	(6)	2,209,592.38	427,570	1,914,598	39,511	1.79	48.5
336.00	ROADS, RAIL ROADS & BRIDGES	06-2082	75-R4	*	(6)	233,526.53	150,164	97,374	2,207	0.95	44.1
	TOTAL SALUDA					380,538,278.94	289,212,872	114,157,704	1,986,868	0.52	57.5

DOMINION ENERGY SOUTH CAROLINA, INC.

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	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	STEVENS CREEK									
331.00	STRUCTURES AND IMPROVEMENTS	06-2079	110-R2 *	(11)	3,150,963.47	1,750,982	1,746,587	31,396	1.00	55.6
332.00	RESERVOIRS, DAMS & WATERWAYS	06-2079	125-R2.5 *	(11)	6,430,202.73	4,176,202	2,961,323	51,143	0.80	57.9
333.00	WATER WHEELS, TURBINES & GENERATORS	06-2079	90-S0 *	(11)	3,212,692.20	1,448,698	2,117,390	40,991	1.28	51.7
334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2079	50-O1 *	(11)	1,112,315.55	546,492	688,178	18,766	1.69	36.7
335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2079	65-R1.5 *	(11)	1,442,721.47	539,349	1,062,072	22,185	1.54	47.9
336.00	ROADS, RAIL ROADS & BRIDGES	06-2079	75-R4 *	(11)	128,811.88	58,981	84,000	1,542	1.20	54.5
	TOTAL STEVENS CREEK				15,477,707.30	8,520,704	8,659,550	166,023	1.07	52.2
	TOTAL HYDRAULIC PRODUCTION PLANT				**626,949,096.22**	**383,492,187**	**393,174,644**	**6,468,973**	**1.03**	**60.8**
	OTHER PRODUCTION PLANT									
	COIT									
341.00	STRUCTURES AND IMPROVEMENTS	06-2029	55-R2.5 *	(10)	181,876.95	158,050	42,015	4,089	2.25	10.3
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2029	55-R2 *	(10)	596,416.05	529,931	126,127	12,292	2.06	10.3
343.00	PRIME MOVERS	06-2029	35-R2 *	(10)	1,356,531.57	1,010,689	481,496	48,457	3.57	9.9
344.00	GENERATORS	06-2029	65-S1 *	(10)	3,490,096.10	3,647,433	191,673	19,957	0.57	9.6
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2029	40-S2 *	(10)	618,017.74	434,487	245,333	23,992	3.88	10.2
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2029	42-R1 *	(10)	154,037.72	127,140	42,301	4,286	2.78	9.9
	TOTAL COIT				6,396,976.13	5,907,730	1,128,945	113,073	1.77	10.0
	HAGOOD UNIT 4									
341.00	STRUCTURES AND IMPROVEMENTS	06-2041	55-R2.5 *	(17)	3,525,302.77	2,556,938	1,567,666	77,643	2.20	20.2
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2041	55-R2 *	(17)	912,783.76	747,978	319,979	15,724	1.72	20.3
343.00	PRIME MOVERS	06-2041	35-R2 *	(17)	24,382,979.72	22,812,428	5,715,658	398,110	1.63	14.4
344.00	GENERATORS	06-2041	65-S1 *	(17)	6,077,154.36	4,989,098	2,121,173	105,487	1.74	20.1
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2041	40-S2 *	(17)	2,775,656.68	2,017,311	1,230,207	71,688	2.58	17.2
345.50	ACCESSORY ELECTRIC EQUIPMENT - CIPv5	06-2041	40-S2 *	(17)	12,905.52	0	15,099	684	5.30	22.1
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2041	42-R1 *	(17)	404,724.85	105,256	368,272	18,569	4.59	19.8
	TOTAL HAGOOD UNIT 4				38,091,507.66	33,229,009	11,338,054	687,905	1.81	16.5
	HARDEEVILLE									
341.00	STRUCTURES AND IMPROVEMENTS	12-2019	55-R2.5 *	(5)	57,556.13	63,063	(2,629)	0	-	-
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	12-2019	55-R2 *	(5)	534,349.66	639,396	(78,329)	0	-	-
343.00	PRIME MOVERS	12-2019	35-R2 *	(5)	798,792.01	918,404	(79,672)	0	-	-
344.00	GENERATORS	12-2019	65-S1 *	(5)	1,862,867.44	2,234,141	(278,130)	0	-	-
345.00	ACCESSORY ELECTRIC EQUIPMENT	12-2019	40-S2 *	(5)	282,978.33	337,011	(39,884)	0	-	-
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	12-2019	42-R1 *	(5)	74,224.68	73,422	4,514	4,514	6.08	1.0
	TOTAL HARDEEVILLE				3,610,768.25	4,265,437	(474,130)	4,514	0.13	(105.0)
	PARR									
341.00	STRUCTURES AND IMPROVEMENTS	06-2040	55-R2.5 *	(15)	881,827.69	605,452	408,650	20,184	2.29	20.2
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2040	55-R2 *	(15)	565,060.97	508,691	141,129	7,900	1.40	17.9
343.00	PRIME MOVERS	06-2040	35-R2 *	(15)	4,483,552.00	1,726,887	3,429,198	182,114	4.06	18.8
344.00	GENERATORS	06-2040	65-S1 *	(15)	3,374,759.04	2,276,100	1,604,873	85,231	2.53	18.8
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2040	40-S2 *	(15)	1,091,579.28	768,892	486,424	25,644	2.35	19.0
345.50	ACCESSORY ELECTRIC EQUIPMENT CIPv5	06-2040	40-S2 *	(15)	1,832,657.67	179,968	1,927,588	91,921	5.02	21.0
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2040	42-R1 *	(15)	224,825.64	126,940	131,609	7,045	3.13	18.7
	TOTAL PARR				12,454,262.29	6,192,930	8,129,471	420,039	3.37	19.4
	URQUHART UNITS 1, 2, 3 AND COMMON									
341.00	STRUCTURES AND IMPROVEMENTS	06-2029	55-R2.5 *	(8)	1,625,635.14	526,847	1,228,839	118,619	7.30	10.4
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2029	55-R2 *	(8)	246,036.72	112,107	153,613	15,040	6.11	10.2
343.00	PRIME MOVERS	06-2029	35-R2 *	(8)	1,040,483.75	359,512	764,210	75,938	7.30	10.1
344.00	GENERATORS	06-2029	65-S1 *	(8)	6,446,774.63	3,003,015	3,959,502	394,902	6.13	10.0
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2029	40-S2 *	(8)	272,173.76	62,874	231,074	22,727	8.35	10.2
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2029	42-R1 *	(8)	107,888.85	5,671	110,849	11,098	10.29	10.0
	TOTAL URQUHART UNITS 1, 2, 3 AND COMMON				9,738,992.85	4,070,026	6,448,087	638,324	6.55	10.1

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES RELATED TO ELECTRIC AND COMMON PLANT AS OF DECEMBER 31, 2018

	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE		NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	URQUHART UNIT 4										
341.00	STRUCTURES AND IMPROVEMENTS	06-2049	55-R2.5	*	(10)	316,053.48	260,857	86,802	3,210	1.02	27.0
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2049	55-R2	*	(10)	211,142.22	132,242	100,014	3,654	1.73	27.4
343.00	PRIME MOVERS	06-2049	35-R2	*	(10)	3,618,805.25	727,714	3,252,972	127,301	3.52	25.6
344.00	GENERATORS	06-2049	65-S1	*	(10)	19,508,023.27	11,654,677	9,804,149	361,027	1.85	27.2
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2049	40-S2	*	(10)	897,652.72	112,841	874,577	32,181	3.59	27.2
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2049	42-R1	*	(10)	80,448.36	2,903	85,590	3,318	4.12	25.8
	TOTAL URQUHART UNIT 4					24,632,125.30	12,891,234	14,204,104	530,691	2.15	26.8
	URQUHART UNITS 5 AND 6										
341.00	STRUCTURES AND IMPROVEMENTS	06-2052	55-R2.5	*	(24)	5,247,987.06	2,384,221	4,123,283	137,652	2.62	30.0
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2052	55-R2	*	(24)	3,609,181.00	2,289,061	2,186,323	75,234	2.08	29.1
343.00	PRIME MOVERS	06-2052	35-R2	*	(24)	224,455,558.33	133,006,705	145,318,187	6,859,920	3.06	21.2
344.00	GENERATORS	06-2052	65-S1	*	(24)	13,383,303.82	4,921,065	11,674,232	393,195	2.94	29.7
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2052	40-S2	*	(24)	17,164,380.38	7,268,678	14,015,154	560,625	3.27	25.0
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2052	42-R1	*	(24)	186,890.62	25,561	206,183	7,503	4.01	27.5
	TOTAL URQUHART UNITS 5 AND 6					264,047,301.21	149,895,291	177,523,362	8,034,129	3.04	22.1
	WILLIAMS - BUSHY PARK										
341.00	STRUCTURES AND IMPROVEMENTS	06-2025	55-R2.5	*	(9)	613,694.42	237,201	431,726	67,076	10.93	6.4
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2025	55-R2	*	(9)	159,083.07	139,155	34,246	5,365	3.37	6.4
343.00	PRIME MOVERS	06-2025	35-R2	*	(9)	6,465,048.48	5,293,632	1,753,271	284,420	4.40	6.2
344.00	GENERATORS	06-2025	65-S1	*	(9)	76,278.55	63,103	20,041	3,151	4.13	6.4
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2025	40-S2	*	(9)	418,086.37	147,499	308,215	48,022	11.49	6.4
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2025	42-R1	*	(9)	120,892.58	70,048	61,725	9,808	8.11	6.3
	TOTAL WILLIAMS - BUSHY PARK					7,853,083.47	5,950,638	2,609,224	417,842	5.32	6.2
	JASPER										
341.00	STRUCTURES AND IMPROVEMENTS	06-2044	55-R2.5	*	(16)	28,259,737.79	10,178,241	22,603,055	947,444	3.35	23.9
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2044	55-R2	*	(16)	30,617.24	907	34,609	1,420	4.64	24.4
343.00	PRIME MOVERS	06-2044	35-R2	*	(16)	306,164,116.11	167,987,412	187,162,963	9,452,794	3.09	19.8
344.00	GENERATORS	06-2044	65-S1	*	(16)	32,735,531.51	11,652,831	26,320,386	1,106,829	3.38	23.8
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2044	40-S2	*	(16)	31,258,420.79	12,368,803	23,890,965	1,113,552	3.56	21.5
345.50	ACCESSORY ELECTRIC EQUIPMENT - CIPv5	06-2044	40-S2	*	(16)	131,997.73	0	153,117	6,194	4.69	24.7
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2044	42-R1	*	(16)	893,302.24	75,698	960,533	43,079	4.82	22.3
	TOTAL JASPER					399,473,723.41	202,263,892	261,125,628	12,671,312	3.17	20.6
	HAGOOD UNIT 5										
341.00	STRUCTURES AND IMPROVEMENTS	06-2060	55-R2.5	*	(23)	335,180.64	52,579	359,693	9,751	2.91	36.9
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2060	55-R2	*	(23)	336,637.51	80,419	333,645	9,240	2.74	36.1
343.00	PRIME MOVERS	06-2060	35-R2	*	(23)	5,081,431.71	3,090,568	3,159,593	114,315	2.25	27.6
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2060	40-S2	*	(23)	2,142,450.55	467,243	2,167,971	72,009	3.36	30.1
	TOTAL HAGOOD UNIT 5					7,895,700.41	3,690,809	6,020,902	205,315	2.60	29.3
	HAGOOD UNIT 6										
341.00	STRUCTURES AND IMPROVEMENTS	06-2060	55-R2.5	*	(21)	665,740.24	117,506	688,040	18,662	2.80	36.9
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2060	55-R2	*	(21)	418,638.95	100,007	406,546	11,259	2.69	36.1
343.00	PRIME MOVERS	06-2060	35-R2	*	(21)	5,836,690.64	2,612,275	4,450,121	158,388	2.71	28.1
344.00	GENERATORS	06-2060	65-S1	*	(21)	3,644.91	1,495	2,915	76	2.09	38.4
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2060	40-S2	*	(21)	3,273,297.07	762,730	3,197,959	106,330	3.25	30.1
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2060	42-R1	*	(21)	63,060.91	7,675	68,629	2,137	3.39	32.1
	TOTAL HAGOOD UNIT 6					10,261,072.72	3,601,688	8,814,210	296,852	2.89	29.7

DOMINION ENERGY SOUTH CAROLINA, INC.

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	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE		NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	COLUMBIA ENERGY CENTER										
341.00	STRUCTURES AND IMPROVEMENTS	12-2054	55-R2.5	*	(16)	4,168,036.20	3,607,226	1,227,696	35,929	0.86	34.2
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	12-2054	55-R2	*	(16)	5,735,000.00	5,288,150	1,364,450	40,657	0.71	33.6
343.00	PRIME MOVERS	12-2054	35-R2	*	(16)	56,636,856.22	54,578,229	11,120,524	369,575	0.65	30.1
344.00	GENERATORS	12-2054	65-S1	*	(16)	90,650,000.00	90,159,456	14,994,544	435,129	0.48	34.5
345.00	ACCESSORY ELECTRIC EQUIPMENT	12-2054	40-S2	*	(16)	2,952,426.56	2,986,548	438,267	13,485	0.46	32.5
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	12-2054	42-R1	*	(16)	475,460.61	344,976	206,558	6,824	1.44	30.3
	TOTAL COLUMBIA ENERGY CENTER					160,617,779.59	156,964,585	29,352,039	901,599	0.56	32.6
	BOEING BUILDING SOLAR PROJECT										
341.00	STRUCTURES AND IMPROVEMENTS	09-2031	55-R2.5	*	(1)	117,179.22	44,396	73,955	5,888	5.02	12.6
344.00	GENERATORS	09-2031	65-S1	*	(1)	7,030,745.12	2,725,170	4,375,883	347,292	4.94	12.6
345.00	ACCESSORY ELECTRIC EQUIPMENT	09-2031	40-S2	*	(1)	2,197,108.36	853,191	1,365,888	109,009	4.96	12.5
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2031	42-R1	*	(1)	17,609.18	6,908	10,877	905	5.14	12.0
	TOTAL BOEING BUILDING SOLAR PROJECT					9,362,641.88	3,629,665	5,826,603	463,094	4.95	12.6
	SOLAR FARM										
341.00	STRUCTURES AND IMPROVEMENTS	06-2036	55-R2.5	*	(1)	30,431.54	1,640	29,096	1,689	5.55	17.2
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2036	42-R1	*	(1)	1,996.43	141	1,875	115	5.76	16.3
	TOTAL SOLAR FARM					32,427.97	1,781	30,971	1,804	5.56	17.2
	TOTAL OTHER PRODUCTION PLANT					**954,468,363.14**	**592,554,715**	**532,077,470**	**25,386,493**	**2.66**	**21.0**
	TRANSMISSION PLANT										
352.00	STRUCTURES AND IMPROVEMENTS										
	V.C. SUMMER - NUCLEAR	06-2062	70-R2	*	(10)	3,967,508.96	256,903	4,107,357	110,459	2.78	37.2
	OTHER LOCATIONS		70-R2		(10)	910,637.86	898,970	102,732	1,477	0.16	69.6
	TOTAL STRUCTURES AND IMPROVEMENTS					4,878,146.82	1,155,873	4,210,089	111,936	2.29	37.6
352.50	STRUCTURES AND IMPROVEMENTS - CIPv5										
	V.C. SUMMER - NUCLEAR	06-2062	70-R2	*	(10)	1,306,897.24	8,967	1,428,620	35,222	2.70	40.6
	OTHER LOCATIONS		70-R2		(10)	404,181.86	45,965	398,635	5,963	1.48	66.9
	TOTAL STRUCTURES AND IMPROVEMENTS - CIPv5					1,711,079.10	54,932	1,827,255	41,185	2.41	44.4
353.00	STATION EQUIPMENT										
	V.C. SUMMER - NUCLEAR	06-2062	60-S0.5	*	(20)	17,852,075.96	4,789,759	16,632,732	479,343	2.69	34.7
	PARR - HYDRO	06-2064	60-S0.5	*	(20)	375,936.02	281,602	169,521	4,977	1.32	34.1
	FAIRFIELD PUMPED STORAGE	06-2128	60-S0.5	*	(20)	1,419,261.53	891,559	811,555	16,096	1.13	50.4
	SALUDA - HYDRO	06-2082	60-S0.5	*	(20)	10,693,127.06	4,290,033	8,541,719	199,166	1.86	42.9
	STEVENS CREEK - HYDRO	06-2079	60-S0.5	*	(20)	4,615,432.70	2,163,264	3,375,255	81,348	1.76	41.5
	NEAL SHOALS - HYDRO	06-2055	60-S0.5	*	(20)	137,436.28	48,872	116,052	3,454	2.51	33.6
	COLUMBIA ENERGY CENTER	12-2054	60-S0.5	*	(20)	2,118,214.51	813,394	1,728,463	55,948	2.64	30.9
	OTHER LOCATIONS		60-S0.5		(20)	399,759,727.61	106,227,343	373,484,330	7,783,155	1.95	48.0
	TOTAL STATION EQUIPMENT					436,971,211.67	119,505,826	404,859,627	8,623,487	1.97	46.9

DOMINION ENERGY SOUTH CAROLINA, INC.

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	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
353.10	STATION EQUIPMENT - STEP UP TRANSFORMERS									
	V.C SUMMER - NUCLEAR	06-2062	55-S3 *	(20)	13,925,389.09	4,432,681	12,277,786	330,744	2.38	37.1
	PARR - HYDRO	06-2064	55-S3 *	(20)	397,439.96	324,579	152,349	9,019	2.27	16.9
	FAIRFIELD PUMPED STORAGE	06-2128	55-S3 *	(20)	7,698,519.87	2,832,246	6,405,978	149,486	1.94	42.9
	SALUDA - HYDRO	06-2082	55-S3 *	(20)	2,170,723.89	897,398	1,707,471	67,003	3.09	25.5
	WATEREE - STEAM	06-2045	55-S3 *	(20)	5,570,895.24	1,625,009	5,060,065	200,280	3.60	25.3
	MCMEEKIN - STEAM	06-2038	55-S3 *	(20)	818,997.20	757,313	225,484	13,775	1.68	16.4
	URQUHART - STEAM	06-2035	55-S3 *	(20)	4,328,833.57	1,419,710	3,774,890	283,968	6.56	13.3
	COPE - STEAM	06-2071	55-S3 *	(20)	6,020,025.00	2,984,691	4,239,339	131,208	2.18	32.3
	WILLIAMS-BUSHY PARK GT	06-2025	55-S3 *	(20)	150,417.37	158,219	22,282	3,875	2.58	5.8
	HARDEEVILLE GT	12-2019	55-S3 *	(20)	118,166.04	137,282	4,517	4,517	3.82	1.0
	COIT GT	06-2029	55-S3 *	(20)	118,154.04	118,493	23,292	2,854	2.42	8.2
	URQUHART GT	06-2052	55-S3 *	(20)	1,214,326.02	582,454	874,737	29,690	2.44	29.5
	HAGOOD GT	06-2060	55-S3 *	(20)	2,846,149.85	1,566,685	1,848,695	57,002	2.00	32.4
	STEVENS CREEK - HYDRO	06-2079	55-S3 *	(20)	438,276.32	270,252	255,680	7,924	1.81	32.3
	JASPER	06-2044	55-S3 *	(20)	19,100,579.87	6,557,295	16,363,401	664,369	3.48	24.6
	COLUMBIA ENERGY CENTER	12-2054	55-S3 *	(20)	24,173,334.00	23,406,190	5,601,811	157,709	0.65	35.5
	SPARE SUBSTATION		55-S3	(20)	14,080,159.27	7,424,537	9,471,654	298,180	2.12	31.8
	TOTAL STATION EQUIPMENT - STEP UP TRANSFORMERS				103,170,386.60	55,495,034	68,309,431	2,411,603	2.34	28.3
353.50	STATION EQUIPMENT - CIPv5									
	V.C SUMMER - NUCLEAR	06-2062	60-S0.5 *	(20)	1,605,917.58	102,272	1,824,829	47,790	2.98	38.2
	FAIRFIELD PUMPED STORAGE	06-2128	60-S0.5 *	(20)	369,558.34	18,555	424,915	7,442	2.01	57.1
	SALUDA - HYDRO	06-2082	60-S0.5 *	(20)	172,680.72	8,447	198,770	4,012	2.32	49.5
	STEVENS CREEK - HYDRO	06-2079	60-S0.5 *	(20)	68,772.48	3,452	79,075	1,640	2.38	48.2
	COLUMBIA ENERGY CENTER	12-2054	60-S0.5 *	(20)	38,775.05	2,803	43,727	1,324	3.41	33.0
	OTHER LOCATIONS		60-S0.5	(20)	13,532,520.08	754,373	15,484,651	272,612	2.01	56.8
	TOTAL STATION EQUIPMENT - CIPv5				15,788,224.25	889,902	18,055,967	334,820	2.12	53.9
353.60	STATION EQUIPMENT - NND									
	V.C SUMMER - NUCLEAR	06-2062	60-S0.5 *	(20)	60,163,227.76	742,949	71,452,924	1,843,471	3.06	38.8
	SALUDA - HYDRO	06-2082	60-S0.5 *	(20)	13,488,236.44	394,799	15,791,085	315,124	2.34	50.1
	OTHER LOCATIONS		60-S0.5	(20)	11,363,691.94	288,325	13,348,105	227,892	2.01	58.6
	TOTAL STATION EQUIPMENT - NND				85,015,156.14	1,426,073	100,592,114	2,386,487	2.81	42.2
353.80	STATION EQUIPMENT - LEASEHOLD		20-SQ	0	1,503,881.95	1,014,478	489,404	75,241	5.00	6.5
354.00	TOWERS AND FIXTURES		80-R3	(40)	4,052,363.23	3,466,615	2,206,694	54,389	1.34	40.6
355.00	POLES AND FIXTURES		59-L1.5	(75)	467,885,695.88	133,821,854	684,978,114	13,886,501	2.97	49.3
355.50	POLES AND FIXTURES - NND		59-L1.5	(75)	104,046,746.16	2,837,079	179,244,727	3,102,706	2.98	57.8
355.80	POLES AND FIXTURES - LEASEHOLD		20-SQ	0	2,053,266.97	620,176	1,433,091	105,757	5.15	13.6
356.10	OVERHEAD CONDUCTORS AND DEVICES - OVERHEAD		64-S0.5	(60)	274,517,381.57	71,182,124	368,045,687	7,258,717	2.64	50.7
356.20	OVERHEAD CONDUCTORS AND DEVICES - FIBER OPTIC		64-S0.5	(60)	3,018,196.22	955,466	3,873,648	78,884	2.61	49.1
356.50	OVERHEAD CONDUCTORS AND DEVICES - NND		64-S0.5	(60)	65,708,670.35	1,020,360	104,113,513	1,659,362	2.53	62.7
356.80	OVERHEAD CONDUCTORS AND DEVICES - LEASEHOLD		20-SQ	0	2,014,268.55	1,288,607	725,662	190,751	9.47	3.8
357.00	UNDERGROUND CONDUIT		60-R3	(5)	19,549,114.01	2,746,722	17,779,848	367,097	1.88	48.4
358.00	UNDERGROUND CONDUCTORS AND DEVICES		55-R3	(5)	57,699,637.41	6,466,356	54,118,263	1,203,733	2.09	45.0
359.00	ROADS AND TRAILS		70-R4	0	73,766.16	19,812	53,954	948	1.29	56.9
	TOTAL TRANSMISSION PLANT				**1,649,657,193.04**	**403,967,289**	**2,014,917,088**	**41,893,604**	**2.54**	**48.1**

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES RELATED TO ELECTRIC AND COMMON PLANT AS OF DECEMBER 31, 2018

	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	DISTRIBUTION PLANT									
361.00	STRUCTURES AND IMPROVEMENTS		70-R2	(10)	4,832,610.09	1,328,433	3,987,438	73,309	1.52	54.4
361.80	STRUCTURES AND IMPROVEMENTS - LEASEHOLD		20-SQ	0	66,541.62	62,747	3,795	3,795	5.70	1.0
362.00	STATION EQUIPMENT		60-S0.5	(10)	406,556,496.63	89,757,981	357,454,165	7,745,006	1.91	46.2
362.50	STATION EQUIPMENT - CIPv5		60-S0.5	(10)	752,224.03	28,863	798,583	13,756	1.83	58.1
362.80	STATION EQUIPMENT - LEASEHOLD		20-SQ	0	4,961,241.42	1,787,697	3,173,544	307,139	6.19	10.3
364.00	POLES, TOWERS AND FIXTURES		44-R1.5	(50)	482,823,378.90	149,135,415	575,099,653	17,779,190	3.68	32.3
365.00	OVERHEAD CONDUCTORS AND DEVICES		64-R1	(10)	526,473,709.99	167,638,156	411,482,925	7,649,267	1.45	53.8
366.00	UNDERGROUND CONDUIT		65-R2.5	(5)	162,211,057.70	54,321,763	115,999,848	2,217,830	1.37	52.3
367.00	UNDERGROUND CONDUCTORS AND DEVICES		50-S0.5	(5)	481,014,754.47	141,977,358	363,088,134	9,199,137	1.91	39.5
368.00	LINE TRANSFORMERS		46-R2	(5)	493,681,881.90	185,981,727	332,384,249	10,012,935	2.03	33.2
369.00	SERVICES - OVERHEAD		75-R3	(80)	110,188,286.72	67,670,880	130,668,036	2,386,952	2.17	54.7
369.10	SERVICES - UNDERGROUND		80-S3	(25)	189,844,730.72	64,041,858	173,264,055	2,689,239	1.42	64.4
370.00	METERS		22-L1.5	0	23,288,842.90	13,316,057	9,972,786	616,120	2.65	16.2
370.30	METERS - AMR	12-2028	15-S1 *	0	77,121,964.18	31,833,007	45,288,957	6,429,689	8.34 **	7.0
370.40	METERS - AMI	12-2028	12-R0.5 *	0	19,449,650.08	3,161,214	16,288,436	2,238,525	11.51 **	7.3
370.50	METERS - DER	12-2028	12-R0.5 *	0	6,230,880.31	748,017	5,482,863	684,193	10.98 **	8.0
373.00	STREET LIGHTING AND SIGNAL SYSTEMS		42-L1	(20)	346,934,033.09	115,442,681	300,878,159	8,997,550	2.59	33.4
373.10	STREET LIGHTING AND SIGNAL SYSTEMS - LED		30-S1	(20)	499,023.04	80,386	518,442	19,647	3.94	26.4
	TOTAL DISTRIBUTION PLANT				**3,336,931,307.79**	**1,088,314,240**	**2,845,834,068**	**79,063,279**	**2.37**	**36.0**
	GENERAL PLANT									
390.10	STRUCTURES AND IMPROVEMENTS		50-S0	(20)	98,260,720.25	29,575,170	88,337,694	2,126,050	2.16	41.6
390.20	STRUCTURES AND IMPROVEMENTS - WAREHOUSE		50-R2.5	(20)	10,251,488.87	2,598,494	9,703,293	240,775	2.35	40.3
390.80	STRUCTURES AND IMPROVEMENTS - OFFICE LEASE		50-S0	(20)	145,185.39	98,535	75,687	2,594	1.79	29.2
390.90	STRUCTURES AND IMPROVEMENTS - WAREHOUSE LEASE		50-R2.5	(20)	111,031.25	32,671	100,566	4,085	3.68	24.6
391.10	OFFICE FURNITURE AND EQUIPMENT		20-SQ	0	8,048,291.76	4,321,441	3,726,851	348,709	4.33	10.7
391.20	OFFICE FURNITURE AND EQUIPMENT - EDP		5-SQ	0	5,023,590.05	3,479,614	1,543,976	758,077	15.09	2.0
391.30	OFFICE FURNITURE AND EQUIPMENT - DATA HANDLING		10-SQ	0	296,469.85	169,593	126,877	64,585	21.78	2.0
393.00	STORES EQUIPMENT		25-SQ	0	96,438.93	63,327	33,112	3,576	3.71	9.3
394.10	TOOL, SHOP AND GARAGE EQUIPMENT - HAND TOOLS		20-SQ	0	526,917.85	233,709	293,209	24,999	4.74	11.7
394.20	TOOL, SHOP AND GARAGE EQUIPMENT - LINE		20-SQ	0	2,787,005.64	1,385,541	1,401,465	111,137	3.99	12.6
394.30	TOOL, SHOP AND GARAGE EQUIPMENT - SHOP		20-SQ	0	228,242.98	156,066	72,177	9,963	4.37	7.2
394.40	TOOL, SHOP AND GARAGE EQUIPMENT - GARAGE		20-SQ	0	263,167.56	118,470	144,698	15,987	6.07	9.1
395.10	LABORATORY EQUIPMENT - METER TEST		20-SQ	0	1,566,545.36	1,007,502	559,043	50,112	3.20	11.2
395.20	LABORATORY EQUIPMENT - OTHER TEST		20-SQ	0	492,295.07	234,252	258,043	22,334	4.54	11.6
395.30	LABORATORY EQUIPMENT - FIELD TEST		20-SQ	0	4,175,137.18	2,405,010	1,770,127	151,196	3.62	11.7
397.00	COMMUNICATION EQUIPMENT		10-SQ	0	8,704,607.07	3,322,848	5,381,759	651,453	7.48	8.3
397.50	COMMUNICATION EQUIPMENT - CIPv5		10-SQ	0	265,650.15	27,947	237,703	31,694	11.93	7.5
398.00	MISCELLANEOUS EQUIPMENT		20-SQ	0	6,365,375.87	3,754,288	2,611,088	206,403	3.24	12.7
	TOTAL GENERAL PLANT				**147,608,161.08**	**52,984,478**	**116,377,368**	**4,823,729**	**3.27**	**24.1**
	TOTAL ELECTRIC PLANT				**10,059,421,939.72**	**4,078,646,817**	**8,249,036,385**	**249,734,987**		
	COMMON PLANT									
690.10	STRUCTURES AND IMPROVEMENTS - OFFICE		50-S0	(20)	137,882,055.31	35,084,696	130,373,770	3,242,075	2.35	40.2
690.20	STRUCTURES AND IMPROVEMENTS - WAREHOUSE		50-R2.5	(20)	22,551,575.91	5,990,692	21,071,199	515,450	2.29	40.9
690.80	STRUCTURES AND IMPROVEMENTS - OFFICE LEASE		50-S0	(20)	15,001,161.40	4,069,532	13,931,862	324,584	2.16	42.9
690.90	STRUCTURES AND IMPROVEMENTS - WAREHOUSE LEASE		50-R2.5	(20)	293,437.21	104,379	247,746	6,288	2.14	39.4
691.10	OFFICE FURNITURE AND EQUIPMENT		20-SQ	0	8,056,200.89	4,605,226	3,450,975	460,647	5.72	7.5
691.20	OFFICE FURNITURE AND EQUIPMENT - EDP		5-SQ	0	795,862.55	562,409	233,454	161,979	20.35	1.4
691.30	OFFICE FURNITURE AND EQUIPMENT - DATA HANDLING		10-SQ	0	1,107,657.53	1,019,959	87,699	18,012	1.63	4.9
694.10	TOOL, SHOP AND GARAGE EQUIPMENT - POWER TOOLS		20-SQ	0	3,133.77	2,886	248	197	6.29	1.3
694.30	TOOL, SHOP AND GARAGE EQUIPMENT - SHOP TOOLS		20-SQ	0	116,626.77	72,154	44,473	5,517	4.73	8.1
694.40	TOOL, SHOP AND GARAGE EQUIPMENT - GARAGE		20-SQ	0	1,604,970.29	825,799	779,171	77,597	4.83	10.0
695.20	LABORATORY EQUIPMENT - OTHER TEST		20-SQ	0	65,056.34	60,389	4,667	3,111	4.78	1.5
695.30	LABORATORY EQUIPMENT - FIELD TEST		20-SQ	0	42,899.28	35,107	7,792	1,322	3.08	5.9

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	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
697.00	COMMUNICATION EQUIPMENT		10-SQ	0	4,993,942.24	2,619,094	2,374,848	478,558	9.58	5.0
697.80	COMMUNICATION EQUIPMENT - LEASEHOLD		10-SQ	0	17,081.66	7,603	9,479	1,605	9.40	5.9
698.00	MISCELLANEOUS EQUIPMENT		20-SQ	0	6,119,326.15	3,366,614	2,752,712	273,399	4.47	10.1
	TOTAL COMMON PLANT				**198,650,987.30**	**58,426,539**	**175,370,095**	**5,570,341**	**2.80**	**31.5**
	TOTAL DEPRECIABLE PLANT				**10,258,072,927.02**	**4,137,073,356**	**8,424,406,480**	**255,305,328**	**2.49**	**33.0**
	NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED									
	ELECTRIC PLANT									
301.00	ORGANIZATION				14,988.33	14,988				
302.00	FRANCHISES AND CONSENTS				4,643,673.29	3,380,802				
302.20	FRANCHISES AND CONSENTS - NUCLEAR				8,564,832.09	3,302,714				
303.00	MISCELLANEOUS INTANGIBLE PLANT				43,099,019.72	54,887,217				
303.20	MISCELLANEOUS INTANGIBLE PLANT - NUCLEAR				21,518,977.14					
303.30	MISCELLANEOUS INTANGIBLE PLANT - CYBER				915,168.18	297,199				
303.50	MISCELLANEOUS INTANGIBLE PLANT - CIPv5				738,890.44	423,174				
303.60	MISCELLANEOUS INTANGIBLE PLANT - DER				987,361.60	102,866				
310.00	LAND OWNED IN FEE				13,553,077.37					
317.00	ARO - STEAM PRODUCTION				(1,048,968.09)	20,651,919				
320.10	LAND OWNED IN FEE				880,611.29					
326.00	ARO - NUCLEAR PRODUCTION				22,893,825.83	14,589,110				
330.10	LAND OWNED IN FEE				29,482,601.10					
340.10	LAND OWNED IN FEE				2,918,325.21					
347.00	ARO - OTHER PRODUCTION				(5,796,000.74)	6,671,220				
350.10	LAND OWNED IN FEE				12,557,147.41					
350.20	LAND RIGHTS AND EASEMENTS				92,345,228.42	53,168				
350.30	LAND OWNED IN FEE - NND				3,743,763.71					
353.10	BURTON - STATION EQUIPMENT - STEP UP TRANSFORMERS				0.00	13,349				
360.10	LAND OWNED IN FEE				24,978,634.99					
360.20	LAND RIGHTS AND EASEMENTS				35,065,945.39					
360.80	LAND RIGHTS AND EASEMENTS				90,300.04	9,792				
374.10	ARO - DISTRIBUTION TRANSFORMERS				(76,592.94)	10,528				
374.20	ARO - DISTRIBUTION STRUCTURES				183,077.21	103,823				
389.10	LAND OWNED IN FEE				8,188,925.80					
392.10	ELECTRIC AUTOMOBILES				17,494,792.61	13,454,937				
396.00	POWER OPERATED EQUIPMENT				28,895,067.69	23,991,740				
	TOTAL ELECTRIC PLANT				**366,832,673.09**	**141,958,546**				
	COMMON PLANT									
603.00	MISCELLANEOUS INTANGIBLE PLANT				128,964,084.85	100,978,995				
689.10	LAND OWNED IN FEE				18,264,064.16					
689.20	LAND RIGHTS				1,028.94					
692.10	AUTOMOBILES				135,745.10	4,736,769				
692.20	LIGHT DUTY TRUCKS				4,569,336.11					
692.30	MEDIUM DUTY TRUCKS				545,931.81	16,179				
692.70	TRAILERS				554,708.11					
696.00	POWER OPERATED EQUIPMENT				3,048,564.31	2,067,969				
699.10	ARO - GENERAL PLANT TANKS				3,750.14	11,397				
699.20	ARO - GENERAL PLANT STRUCTURES				80,580.69	93,265				
	TOTAL COMMON PLANT				**156,167,794.22**	**107,904,575**				
	TOTAL NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED				**523,000,467.31**	**249,863,121**				
	TOTAL ELECTRIC AND COMMON PLANT				**10,781,073,394.33**	**4,386,936,477**	**8,424,406,480**	**255,305,328**		

* CURVE SHOWN IS INTERIM SURVIVOR CURVE. EACH FACILITY IN THE ACCOUNT IS ASSIGNED AN INDIVIDUAL PROBABLE RETIREMENT YEAR.
** UNRECOVERED DEPRECIABLE BALANCE OF RETIRED ERTs WILL BE AMORTIZED THROUGH DECEMBER 31, 2028.

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 1. CALCULATION OF TERMINAL AND INTERIM RETIREMENTS AS A PERCENT OF TOTAL RETIREMENTS

LOCATION	TOTAL PROJECTED RETIREMENTS	TOTAL TERMINAL RETIREMENTS AMOUNT	TOTAL TERMINAL RETIREMENTS (%)	TOTAL INTERIM RETIREMENTS AMOUNT	TOTAL INTERIM RETIREMENTS (%)
(1)	(2)	(3)	(4)=(3)/(2)	(6)	(7)=(6)/(2)
STEAM PRODUCTION					
COPE	(550,416,271.08)	(123,133,232.18)	22.37	(427,283,038.90)	77.63
MCMEEKIN	(188,781,998.10)	(133,887,265.56)	70.92	(54,894,732.54)	29.08
URQUHART 3	(126,551,257.81)	(101,885,997.92)	80.51	(24,665,259.89)	19.49
WATEREE	(918,402,756.81)	(599,381,207.55)	65.26	(319,021,549.26)	34.74
JASPER	(107,764,541.25)	(79,028,741.35)	73.33	(28,735,799.90)	26.67
COLUMBIAN ENERGY CENTER	(100,313,061.80)	(69,453,285.29)	69.24	(30,859,776.51)	30.76
TOTAL STEAM PRODUCTION	**(1,992,229,886.85)**	**(1,106,769,729.85)**	**55.55**	**(885,460,157.00)**	**44.45**
HYDRO PRODUCTION					
FAIRFIELD	(209,649,180.81)	(41,712,103.94)	19.90	(167,937,076.87)	80.10
NEAL SHOALS	(9,068,314.52)	(7,355,941.67)	81.12	(1,712,372.85)	18.88
PARR	(12,215,614.65)	(8,700,620.97)	71.23	(3,514,993.68)	28.77
SALUDA	(380,538,278.94)	(315,751,025.45)	82.97	(64,787,253.49)	17.03
STEVENS CREEK	(15,477,707.30)	(9,915,760.59)	64.06	(5,561,946.71)	35.94
TOTAL HYDRO PRODUCTION	**(626,949,096.22)**	**(383,435,452.62)**	**61.16**	**(243,513,643.60)**	**38.84**
OTHER PRODUCTION					
COIT	(6,396,976.13)	(5,324,644.17)	83.24	(1,072,331.96)	16.76
HAGOOD UNIT 4	(38,091,507.66)	(14,694,695.29)	38.58	(23,396,812.37)	61.42
HARDEEVILLE	(3,610,768.25)	(3,610,768.25)	100.00	0.00	0.00
PARR	(12,454,262.29)	(8,903,987.71)	71.49	(3,550,274.58)	28.51
URQUHART UNITS 1,2,3 AND COMMON	(9,738,992.85)	(8,797,427.84)	90.33	(941,565.01)	9.67
URQUHART UNIT 4	(24,632,125.30)	(17,375,386.87)	70.54	(7,256,738.43)	29.46
URQUHART UNITS 5 AND 6	(264,047,301.21)	(58,092,500.66)	22.00	(205,954,800.55)	78.00
WILLIAMS-BUSHY PARK	(7,853,083.47)	(7,040,602.32)	89.65	(812,481.15)	10.35
JASPER	(399,473,723.41)	(207,777,694.80)	52.01	(191,696,028.61)	47.99
HAGOOD UNIT 5	(7,895,700.41)	(1,694,475.16)	21.46	(6,201,225.25)	78.54
HAGOOD UNIT 6	(10,261,072.72)	(2,470,443.19)	24.08	(7,790,629.53)	75.92
COLUMBIA ENERGY CENTER	(160,617,779.59)	(118,490,337.93)	73.77	(42,127,441.66)	26.23
BOEING BUILDING SOLAR PROJECT	(9,362,641.88)	(9,051,159.62)	96.67	(311,482.26)	3.33
SOLAR FARM	(32,427.97)	(31,003.73)	95.61	(1,424.24)	4.39
TOTAL OTHER PRODUCTION	**(954,468,363.14)**	**(463,355,127.54)**	**48.55**	**(491,113,235.60)**	**51.45**
TOTAL PRODUCTION	**(3,573,647,346.21)**	**(1,953,560,310.01)**		**(1,620,087,036.20)**	

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 2. CALCULATION OF WEIGHTED NET SALVAGE PERCENT

ACCOUNT	TERMINAL RETIREMENTS RETIREMENTS (%)	TERMINAL RETIREMENTS NET SALVAGE (%)	INTERIM RETIREMENTS RETIREMENTS (%)	INTERIM RETIREMENTS NET SALVAGE (%)	WEIGHTED AVERAGE NET SALVAGE %
(1)	(2)	(3)	(4)	(5)	(6)=(2)*(3)+(4)*(5)
STEAM PRODUCTION					
COPE	22.37	(69)	77.63	(37)	(44)
MCMEEKIN	70.92	(17)	29.08	(37)	(23)
URQUHART 3	80.51	(8)	19.49	(37)	(13)
WATEREE	65.26	(12)	34.74	(37)	(21)
JASPER	73.33	(33)	26.67	(37)	(34)
COLUMBIAN ENERGY CENTER	69.24	(41)	30.76	(37)	(40)
HYDRO PRODUCTION					
FAIRFIELD	19.90	(209)	80.10	(22)	(59)
NEAL SHOALS	81.12	(3)	18.88	(22)	(7)
PARR	71.23	(1)	28.77	(22)	(7)
SALUDA	82.97	(3)	17.03	(22)	(6)
STEVENS CREEK	64.06	(4)	35.94	(22)	(11)
OTHER PRODUCTION					
COIT	83.24	(8)	16.76	(20)	(10)
HAGOOD UNIT 4	38.58	(11)	61.42	(20)	(17)
HARDEEVILLE	100.00	(5)	0.00	(20)	(5)
PARR	71.49	(13)	28.51	(20)	(15)
URQUHART UNITS 1,2,3 AND COMMON	90.33	(7)	9.67	(20)	(8)
URQUHART UNIT 4	70.54	(6)	29.46	(20)	(10)
URQUHART UNITS 5 AND 6	22.00	(38)	78.00	(20)	(24)
WILLIAMS-BUSHY PARK	89.65	(8)	10.35	(20)	(9)
JASPER	52.01	(12)	47.99	(20)	(16)
HAGOOD UNIT 5	21.46	(33)	78.54	(20)	(23)
HAGOOD UNIT 6	24.08	(24)	75.92	(20)	(21)
COLUMBIA ENERGY CENTER	73.77	(15)	26.23	(20)	(16)
BOEING BUILDING SOLAR PROJECT	96.67	0	3.33	(20)	(1)

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES RELATED TO ELECTRIC AND COMMON PLANT AS OF DECEMBER 31, 2018

	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE		NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	STEAM PRODUCTION PLANT										
	CENTRAL LAB										
311.00	STRUCTURES AND IMPROVEMENTS	06-2038	80-R2	*	(40)	3,511,817.59	2,771,530	2,145,015	113,989	3.25	18.8
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2038	65-R2	*	(20)	58,757.43	54,638	15,871	890	1.51	17.8
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2038	41-R0.5	*	(3)	2,778,700.75	1,121,045	1,741,017	101,594	3.66	17.1
	TOTAL CENTRAL LAB					6,349,275.77	3,947,213	3,901,903	216,473	3.41	18.0
	COPE										
311.00	STRUCTURES AND IMPROVEMENTS	06-2071	80-R2	*	(44)	81,673,527.91	36,894,674	80,715,206	1,752,298	2.15	46.1
312.00	BOILER PLANT EQUIPMENT	06-2071	41-S0	*	(44)	346,125,882.26	175,405,012	323,016,258	11,536,994	3.33	28.0
314.00	TURBOGENERATOR UNITS	06-2071	52-S0	*	(44)	86,916,387.60	54,031,544	71,128,054	2,118,703	2.44	33.6
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2071	65-R2	*	(44)	23,796,036.35	13,185,452	21,080,840	516,562	2.17	40.8
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2071	41-R0.5	*	(44)	11,904,436.96	4,224,935	12,917,454	416,775	3.50	31.0
	TOTAL COPE					550,416,271.08	283,741,617	508,857,812	16,341,332	2.97	31.1
	MCMEEKIN										
311.00	STRUCTURES AND IMPROVEMENTS	06-2038	80-R2	*	(23)	19,020,281.58	12,861,469	10,533,477	562,171	2.96	18.7
312.00	BOILER PLANT EQUIPMENT	06-2038	41-S0	*	(23)	113,209,655.69	62,300,287	76,947,589	4,702,863	4.15	16.4
314.00	TURBOGENERATOR UNITS	06-2038	52-S0	*	(23)	40,614,429.42	24,494,362	25,461,386	1,442,911	3.55	17.6
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2038	65-R2	*	(23)	11,308,283.09	7,009,779	6,899,409	365,578	3.23	18.9
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2038	41-R0.5	*	(23)	4,629,348.32	2,321,462	3,372,636	205,849	4.45	16.4
	TOTAL MCMEEKIN					188,781,998.10	108,987,359	123,214,497	7,279,372	3.86	16.9
	URQUHART 3										
311.00	STRUCTURES AND IMPROVEMENTS	06-2035	80-R2	*	(13)	17,187,922.20	14,009,508	5,412,844	339,661	1.98	15.9
312.00	BOILER PLANT EQUIPMENT	06-2035	41-S0	*	(13)	24,785,427.19	9,403,281	18,604,252	1,366,376	5.51	13.6
314.00	TURBOGENERATOR UNITS	06-2035	52-S0	*	(13)	62,075,363.05	31,519,766	38,625,394	2,503,414	4.03	15.4
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2035	65-R2	*	(13)	17,015,472.95	4,900,691	14,326,793	902,404	5.30	15.9
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2035	41-R0.5	*	(13)	5,487,072.42	2,110,375	4,090,017	275,201	5.02	14.9
	TOTAL URQUHART 3					126,551,257.81	61,943,621	81,059,300	5,387,056	4.26	15.0
	WATEREE										
311.00	STRUCTURES AND IMPROVEMENTS	06-2045	80-R2	*	(21)	141,131,237.50	47,644,816	123,123,981	4,833,079	3.42	25.5
312.00	BOILER PLANT EQUIPMENT	06-2045	41-S0	*	(21)	595,296,474.73	238,509,483	481,799,251	22,478,744	3.78	21.4
314.00	TURBOGENERATOR UNITS	06-2045	52-S0	*	(21)	138,823,188.63	72,240,673	95,735,385	4,238,875	3.05	22.6
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2045	65-R2	*	(21)	34,975,774.21	12,588,068	29,732,619	1,205,482	3.45	24.7
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2045	41-R0.5	*	(21)	8,176,081.74	2,201,001	7,692,058	357,720	4.38	21.5
	TOTAL WATEREE					918,402,756.81	373,184,041	738,083,294	33,113,900	3.61	22.3
	JASPER										
311.00	STRUCTURES AND IMPROVEMENTS	06-2044	80-R2	*	(34)	25,965.25	0	34,793	1,395	5.37	24.9
312.00	BOILER PLANT EQUIPMENT	06-2044	41-S0	*	(34)	472,406.47	33,500	599,525	26,586	5.63	22.6
314.00	TURBOGENERATOR UNITS	06-2044	52-S0	*	(34)	100,137,639.52	26,965,187	107,219,250	4,827,260	4.82	22.2
315.00	ACCESSORY ELECTRIC EQUIPMENT	06-2044	65-R2	*	(34)	6,631,969.75	1,633,913	7,252,926	298,303	4.50	24.3
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2044	41-R0.5	*	(34)	496,560.26	75,452	589,939	27,079	5.45	21.8
	TOTAL JASPER					107,764,541.25	28,708,052	115,696,433	5,180,623	4.81	22.3
	COLUMBIA ENERGY CENTER										
311.00	STRUCTURES AND IMPROVEMENTS	12-2054	80-R2	*	(40)	4,625,000.00	4,014,906	2,460,094	70,896	1.53	34.7
312.00	BOILER PLANT EQUIPMENT	12-2054	41-S0	*	(40)	24,512,500.00	26,668,678	7,648,822	255,472	1.04	29.9
314.00	TURBOGENERATOR UNITS	12-2054	52-S0	*	(40)	69,415,284.09	68,376,799	28,804,599	904,951	1.30	31.8
315.00	ACCESSORY ELECTRIC EQUIPMENT	12-2054	65-R2	*	(40)	2,777.71	2,339	1,550	45	1.62	34.4
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	12-2054	41-R0.5	*	(40)	1,757,500.00	1,205,751	1,254,749	43,178	2.46	29.1
	TOTAL COLUMBIA ENERGY CENTER					100,313,061.80	100,268,473	40,169,814	1,274,542	1.27	31.5
	TOTAL STEAM PRODUCTION PLANT					**1,998,579,162.62**	**960,780,376**	**1,610,983,053**	**68,793,298**	**3.44**	**23.4**

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES RELATED TO ELECTRIC AND COMMON PLANT AS OF DECEMBER 31, 2018

	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE		NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	NUCLEAR PRODUCTION PLANT										
321.00	STRUCTURES AND IMPROVEMENTS	06-2062	80-R2.5	*	(3)	336,884,725.24	172,076,132	174,915,135	4,451,901	1.32	39.3
322.00	REACTOR PLANT EQUIPMENT	06-2062	60-R2.5	*	(5)	606,850,056.41	269,840,730	367,351,829	10,417,169	1.72	35.3
323.00	TURBOGENERATOR UNITS	06-2062	45-S1	*	(5)	106,865,603.52	32,788,978	79,419,906	2,925,434	2.74	27.1
324.00	ACCESSORY ELECTRIC EQUIPMENT	06-2062	55-R3	*	(1)	115,146,991.00	72,243,783	44,054,678	1,507,014	1.31	29.2
325.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2062	30-R2.5	*	(3)	160,794,365.04	49,337,206	116,280,990	6,051,594	3.76	19.2
325.10	MISCELLANEOUS POWER PLANT EQUIPMENT - CYBER	06-2062	30-R2.5	*	0	18,686,914.62	266,703	18,420,212	654,114	3.50	28.2
	TOTAL NUCLEAR PRODUCTION PLANT					**1,345,228,655.83**	**596,553,532**	**800,442,750**	**26,007,226**	**1.93**	**30.8**
	HYDRAULIC PRODUCTION PLANT										
	FAIRFIELD										
331.00	STRUCTURES AND IMPROVEMENTS	06-2128	110-R2	*	(59)	36,801,419.42	18,095,960	40,418,297	547,247	1.49	73.9
332.00	RESERVOIRS, DAMS & WATERWAYS	06-2128	125-R2.5	*	(59)	74,792,871.25	35,997,762	82,922,903	1,005,693	1.34	82.5
333.00	WATER WHEELS, TURBINES & GENERATORS	06-2128	90-S0	*	(59)	67,528,739.32	22,441,267	84,929,429	1,315,639	1.95	64.6
334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2128	50-O1	*	(59)	22,652,369.67	641,385	35,375,883	771,437	3.41	45.9
335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2128	65-R1.5	*	(59)	6,545,444.85	304,889	10,102,368	232,134	3.55	43.5
336.00	ROADS, RAIL ROADS & BRIDGES	06-2128	75-R4	*	(59)	1,328,336.30	821,221	1,290,834	36,088	2.72	35.8
	TOTAL FAIRFIELD					209,649,180.81	78,302,484	255,039,714	3,908,238	1.86	65.3
	NEAL SHOALS										
331.00	STRUCTURES AND IMPROVEMENTS	06-2055	110-R2	*	(7)	827,541.48	519,348	366,121	10,426	1.26	35.1
332.00	RESERVOIRS, DAMS & WATERWAYS	06-2055	125-R2.5	*	(7)	3,660,825.41	1,023,315	2,893,768	83,082	2.27	34.8
333.00	WATER WHEELS, TURBINES & GENERATORS	06-2055	90-S0	*	(7)	3,707,773.04	1,514,095	2,453,222	73,148	1.97	33.5
334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2055	50-O1	*	(7)	495,222.98	235,590	294,299	10,131	2.05	29.0
335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2055	65-R1.5	*	(7)	374,306.55	133,916	266,592	8,121	2.17	32.8
336.00	ROADS, RAIL ROADS & BRIDGES	06-2055	75-R4	*	(7)	2,645.06	2,109	721	21	0.79	34.3
	TOTAL NEAL SHOALS					9,068,314.52	3,428,373	6,274,723	184,929	2.04	33.9
	PARR										
331.00	STRUCTURES AND IMPROVEMENTS	06-2064	110-R2	*	(7)	1,905,616.80	367,914	1,671,096	39,003	2.05	42.8
332.00	RESERVOIRS, DAMS & WATERWAYS	06-2064	125-R2.5	*	(7)	4,805,840.61	1,825,889	3,316,360	77,471	1.61	42.8
333.00	WATER WHEELS, TURBINES & GENERATORS	06-2064	90-S0	*	(7)	2,833,820.57	692,509	2,339,679	57,403	2.03	40.8
334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2064	50-O1	*	(7)	2,033,549.58	895,591	1,280,307	38,139	1.88	33.6
335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2064	65-R1.5	*	(7)	512,589.43	163,374	385,097	9,741	1.90	39.5
336.00	ROADS, RAIL ROADS & BRIDGES	06-2064	75-R4	*	(7)	124,197.66	82,477	50,414	1,158	0.93	43.5
	TOTAL PARR					12,215,614.65	4,027,754	9,042,953	222,915	1.82	40.6
	SALUDA										
331.00	STRUCTURES AND IMPROVEMENTS	06-2082	110-R2	*	(6)	7,324,982.50	2,673,145	5,091,336	89,658	1.22	56.8
332.00	RESERVOIRS, DAMS & WATERWAYS	06-2082	125-R2.5	*	(6)	21,829,603.10	14,981,096	8,158,283	149,893	0.69	54.4
332.50	RESERVOIRS, DAMS & WATERWAYS - SALUDA BACKUP DAM	06-2082	125-R2.5	*	(6)	332,839,643.92	265,290,380	87,519,643	1,444,932	0.43	60.6
333.00	WATER WHEELS, TURBINES & GENERATORS	06-2082	90-S0	*	(6)	10,098,847.67	5,271,625	5,433,154	111,852	1.11	48.6
334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2082	50-O1	*	(6)	6,002,082.84	418,892	5,943,316	148,815	2.48	39.9
335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2082	65-R1.5	*	(6)	2,209,592.38	427,570	1,914,598	39,511	1.79	48.5
336.00	ROADS, RAIL ROADS & BRIDGES	06-2082	75-R4	*	(6)	233,526.53	150,164	97,374	2,207	0.95	44.1
	TOTAL SALUDA					380,538,278.94	289,212,872	114,157,704	1,986,868	0.52	57.5

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES RELATED TO ELECTRIC AND COMMON PLANT AS OF DECEMBER 31, 2018

	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	STEVENS CREEK									
331.00	STRUCTURES AND IMPROVEMENTS	06-2079	110-R2 *	(11)	3,150,963.47	1,750,982	1,746,587	31,396	1.00	55.6
332.00	RESERVOIRS, DAMS & WATERWAYS	06-2079	125-R2.5 *	(11)	6,430,202.73	4,176,202	2,961,323	51,143	0.80	57.9
333.00	WATER WHEELS, TURBINES & GENERATORS	06-2079	90-S0 *	(11)	3,212,692.20	1,448,698	2,117,390	40,991	1.28	51.7
334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2079	50-O1 *	(11)	1,112,315.55	546,492	688,178	18,766	1.69	36.7
335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2079	65-R1.5 *	(11)	1,442,721.47	539,349	1,062,072	22,185	1.54	47.9
336.00	ROADS, RAIL ROADS & BRIDGES	06-2079	75-R4 *	(11)	128,811.88	58,981	84,000	1,542	1.20	54.5
	TOTAL STEVENS CREEK				15,477,707.30	8,520,704	8,659,550	166,023	1.07	52.2
	TOTAL HYDRAULIC PRODUCTION PLANT				**626,949,096.22**	**383,492,187**	**393,174,644**	**6,468,973**	**1.03**	**60.8**
	OTHER PRODUCTION PLANT									
	COIT									
341.00	STRUCTURES AND IMPROVEMENTS	06-2029	55-R2.5 *	(10)	181,876.95	158,050	42,015	4,089	2.25	10.3
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2029	55-R2 *	(10)	596,416.05	529,931	126,127	12,292	2.06	10.3
343.00	PRIME MOVERS	06-2029	35-R2 *	(10)	1,356,531.57	1,010,689	481,496	48,457	3.57	9.9
344.00	GENERATORS	06-2029	65-S1 *	(10)	3,490,096.10	3,647,433	191,673	19,957	0.57	9.6
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2029	40-S2 *	(10)	618,017.74	434,487	245,333	23,992	3.88	10.2
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2029	42-R1 *	(10)	154,037.72	127,140	42,301	4,286	2.78	9.9
	TOTAL COIT				6,396,976.13	5,907,730	1,128,945	113,073	1.77	10.0
	HAGOOD UNIT 4									
341.00	STRUCTURES AND IMPROVEMENTS	06-2041	55-R2.5 *	(17)	3,525,302.77	2,556,938	1,567,666	77,643	2.20	20.2
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2041	55-R2 *	(17)	912,783.76	747,978	319,979	15,724	1.72	20.3
343.00	PRIME MOVERS	06-2041	35-R2 *	(17)	24,382,979.72	22,812,428	5,715,658	398,110	1.63	14.4
344.00	GENERATORS	06-2041	65-S1 *	(17)	6,077,154.36	4,989,098	2,121,173	105,487	1.74	20.1
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2041	40-S2 *	(17)	2,775,656.68	2,017,311	1,230,207	71,688	2.58	17.2
345.50	ACCESSORY ELECTRIC EQUIPMENT - CIPv5	06-2041	40-S2 *	(17)	12,905.52	0	15,099	684	5.30	22.1
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2041	42-R1 *	(17)	404,724.85	105,256	368,272	18,569	4.59	19.8
	TOTAL HAGOOD UNIT 4				38,091,507.66	33,229,009	11,338,054	687,905	1.81	16.5
	HARDEEVILLE									
341.00	STRUCTURES AND IMPROVEMENTS	12-2019	55-R2.5 *	(5)	57,556.13	63,063	(2,629)	0	-	-
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	12-2019	55-R2 *	(5)	534,349.66	639,396	(78,329)	0	-	-
343.00	PRIME MOVERS	12-2019	35-R2 *	(5)	798,792.01	918,404	(79,672)	0	-	-
344.00	GENERATORS	12-2019	65-S1 *	(5)	1,862,867.44	2,234,141	(278,130)	0	-	-
345.00	ACCESSORY ELECTRIC EQUIPMENT	12-2019	40-S2 *	(5)	282,978.33	337,011	(39,884)	0	-	-
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	12-2019	42-R1 *	(5)	74,224.68	73,422	4,514	4,514	6.08	1.0
	TOTAL HARDEEVILLE				3,610,768.25	4,265,437	(474,130)	4,514	0.13	(105.0)
	PARR									
341.00	STRUCTURES AND IMPROVEMENTS	06-2040	55-R2.5 *	(15)	881,827.69	605,452	408,650	20,184	2.29	20.2
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2040	55-R2 *	(15)	565,060.97	508,691	141,129	7,900	1.40	17.9
343.00	PRIME MOVERS	06-2040	35-R2 *	(15)	4,483,552.00	1,726,887	3,429,198	182,114	4.06	18.8
344.00	GENERATORS	06-2040	65-S1 *	(15)	3,374,759.04	2,276,100	1,604,873	85,231	2.53	18.8
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2040	40-S2 *	(15)	1,091,579.28	768,892	486,424	25,644	2.35	19.0
345.50	ACCESSORY ELECTRIC EQUIPMENT CIPv5	06-2040	40-S2 *	(15)	1,832,657.67	179,968	1,927,588	91,921	5.02	21.0
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2040	42-R1 *	(15)	224,825.64	126,940	131,609	7,045	3.13	18.7
	TOTAL PARR				12,454,262.29	6,192,930	8,129,471	420,039	3.37	19.4
	URQUHART UNITS 1, 2, 3 AND COMMON									
341.00	STRUCTURES AND IMPROVEMENTS	06-2029	55-R2.5 *	(8)	1,625,635.14	526,847	1,228,839	118,619	7.30	10.4
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2029	55-R2 *	(8)	246,036.72	112,107	153,613	15,040	6.11	10.2
343.00	PRIME MOVERS	06-2029	35-R2 *	(8)	1,040,483.75	359,512	764,210	75,938	7.30	10.1
344.00	GENERATORS	06-2029	65-S1 *	(8)	6,446,774.63	3,003,015	3,959,502	394,902	6.13	10.0
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2029	40-S2 *	(8)	272,173.76	62,874	231,074	22,727	8.35	10.2
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2029	42-R1 *	(8)	107,888.85	5,671	110,849	11,098	10.29	10.0
	TOTAL URQUHART UNITS 1, 2, 3 AND COMMON				9,738,992.85	4,070,026	6,448,087	638,324	6.55	10.1

DOMINION ENERGY SOUTH CAROLINA, INC.

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	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE		NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	URQUHART UNIT 4										
341.00	STRUCTURES AND IMPROVEMENTS	06-2049	55-R2.5	*	(10)	316,053.48	260,857	86,802	3,210	1.02	27.0
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2049	55-R2	*	(10)	211,142.22	132,242	100,014	3,654	1.73	27.4
343.00	PRIME MOVERS	06-2049	35-R2	*	(10)	3,618,805.25	727,714	3,252,972	127,301	3.52	25.6
344.00	GENERATORS	06-2049	65-S1	*	(10)	19,508,023.27	11,654,677	9,804,149	361,027	1.85	27.2
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2049	40-S2	*	(10)	897,652.72	112,841	874,577	32,181	3.59	27.2
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2049	42-R1	*	(10)	80,448.36	2,903	85,590	3,318	4.12	25.8
	TOTAL URQUHART UNIT 4					24,632,125.30	12,891,234	14,204,104	530,691	2.15	26.8
	URQUHART UNITS 5 AND 6										
341.00	STRUCTURES AND IMPROVEMENTS	06-2052	55-R2.5	*	(24)	5,247,987.06	2,384,221	4,123,283	137,652	2.62	30.0
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2052	55-R2	*	(24)	3,609,181.00	2,289,061	2,186,323	75,234	2.08	29.1
343.00	PRIME MOVERS	06-2052	35-R2	*	(24)	224,455,558.33	133,006,705	145,318,187	6,859,920	3.06	21.2
344.00	GENERATORS	06-2052	65-S1	*	(24)	13,383,303.82	4,921,065	11,674,232	393,195	2.94	29.7
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2052	40-S2	*	(24)	17,164,380.38	7,268,678	14,015,154	560,625	3.27	25.0
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2052	42-R1	*	(24)	186,890.62	25,561	206,183	7,503	4.01	27.5
	TOTAL URQUHART UNITS 5 AND 6					264,047,301.21	149,895,291	177,523,362	8,034,129	3.04	22.1
	WILLIAMS - BUSHY PARK										
341.00	STRUCTURES AND IMPROVEMENTS	06-2025	55-R2.5	*	(9)	613,694.42	237,201	431,726	67,076	10.93	6.4
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2025	55-R2	*	(9)	159,083.07	139,155	34,246	5,365	3.37	6.4
343.00	PRIME MOVERS	06-2025	35-R2	*	(9)	6,465,048.48	5,293,632	1,753,271	284,420	4.40	6.2
344.00	GENERATORS	06-2025	65-S1	*	(9)	76,278.55	63,103	20,041	3,151	4.13	6.4
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2025	40-S2	*	(9)	418,086.37	147,499	308,215	48,022	11.49	6.4
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2025	42-R1	*	(9)	120,892.58	70,048	61,725	9,808	8.11	6.3
	TOTAL WILLIAMS - BUSHY PARK					7,853,083.47	5,950,638	2,609,224	417,842	5.32	6.2
	JASPER										
341.00	STRUCTURES AND IMPROVEMENTS	06-2044	55-R2.5	*	(16)	28,259,737.79	10,178,241	22,603,055	947,444	3.35	23.9
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2044	55-R2	*	(16)	30,617.24	907	34,609	1,420	4.64	24.4
343.00	PRIME MOVERS	06-2044	35-R2	*	(16)	306,164,116.11	167,987,412	187,162,963	9,452,794	3.09	19.8
344.00	GENERATORS	06-2044	65-S1	*	(16)	32,735,531.51	11,652,831	26,320,386	1,106,829	3.38	23.8
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2044	40-S2	*	(16)	31,258,420.79	12,368,803	23,890,965	1,113,552	3.56	21.5
345.50	ACCESSORY ELECTRIC EQUIPMENT - CIPv5	06-2044	40-S2	*	(16)	131,997.73	0	153,117	6,194	4.69	24.7
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2044	42-R1	*	(16)	893,302.24	75,698	960,533	43,079	4.82	22.3
	TOTAL JASPER					399,473,723.41	202,263,892	261,125,628	12,671,312	3.17	20.6
	HAGOOD UNIT 5										
341.00	STRUCTURES AND IMPROVEMENTS	06-2060	55-R2.5	*	(23)	335,180.64	52,579	359,693	9,751	2.91	36.9
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2060	55-R2	*	(23)	336,637.51	80,419	333,645	9,240	2.74	36.1
343.00	PRIME MOVERS	06-2060	35-R2	*	(23)	5,081,431.71	3,090,568	3,159,593	114,315	2.25	27.6
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2060	40-S2	*	(23)	2,142,450.55	467,243	2,167,971	72,009	3.36	30.1
	TOTAL HAGOOD UNIT 5					7,895,700.41	3,690,809	6,020,902	205,315	2.60	29.3
	HAGOOD UNIT 6										
341.00	STRUCTURES AND IMPROVEMENTS	06-2060	55-R2.5	*	(21)	665,740.24	117,506	688,040	18,662	2.80	36.9
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	06-2060	55-R2	*	(21)	418,638.95	100,007	406,546	11,259	2.69	36.1
343.00	PRIME MOVERS	06-2060	35-R2	*	(21)	5,836,690.64	2,612,275	4,450,121	158,388	2.71	28.1
344.00	GENERATORS	06-2060	65-S1	*	(21)	3,644.91	1,495	2,915	76	2.09	38.4
345.00	ACCESSORY ELECTRIC EQUIPMENT	06-2060	40-S2	*	(21)	3,273,297.07	762,730	3,197,959	106,330	3.25	30.1
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2060	42-R1	*	(21)	63,060.91	7,675	68,629	2,137	3.39	32.1
	TOTAL HAGOOD UNIT 6					10,261,072.72	3,601,688	8,814,210	296,852	2.89	29.7

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	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE		NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	COLUMBIA ENERGY CENTER										
341.00	STRUCTURES AND IMPROVEMENTS	12-2054	55-R2.5	*	(16)	4,168,036.20	3,607,226	1,227,696	35,929	0.86	34.2
342.00	FUEL HOLDERS, PRODUCERS & ACCESSORIES	12-2054	55-R2	*	(16)	5,735,000.00	5,288,150	1,364,450	40,657	0.71	33.6
343.00	PRIME MOVERS	12-2054	35-R2	*	(16)	56,636,856.22	54,578,229	11,120,524	369,575	0.65	30.1
344.00	GENERATORS	12-2054	65-S1	*	(16)	90,650,000.00	90,159,456	14,994,544	435,129	0.48	34.5
345.00	ACCESSORY ELECTRIC EQUIPMENT	12-2054	40-S2	*	(16)	2,952,426.56	2,986,548	438,267	13,485	0.46	32.5
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	12-2054	42-R1	*	(16)	475,460.61	344,976	206,558	6,824	1.44	30.3
	TOTAL COLUMBIA ENERGY CENTER					160,617,779.59	156,964,585	29,352,039	901,599	0.56	32.6
	BOEING BUILDING SOLAR PROJECT										
341.00	STRUCTURES AND IMPROVEMENTS	09-2031	55-R2.5	*	(1)	117,179.22	44,396	73,955	5,888	5.02	12.6
344.00	GENERATORS	09-2031	65-S1	*	(1)	7,030,745.12	2,725,170	4,375,883	347,292	4.94	12.6
345.00	ACCESSORY ELECTRIC EQUIPMENT	09-2031	40-S2	*	(1)	2,197,108.36	853,191	1,365,888	109,009	4.96	12.5
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2031	42-R1	*	(1)	17,609.18	6,908	10,877	905	5.14	12.0
	TOTAL BOEING BUILDING SOLAR PROJECT					9,362,641.88	3,629,665	5,826,603	463,094	4.95	12.6
	SOLAR FARM										
341.00	STRUCTURES AND IMPROVEMENTS	06-2036	55-R2.5	*	(1)	30,431.54	1,640	29,096	1,689	5.55	17.2
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2036	42-R1	*	(1)	1,996.43	141	1,875	115	5.76	16.3
	TOTAL SOLAR FARM					32,427.97	1,781	30,971	1,804	5.56	17.2
	TOTAL OTHER PRODUCTION PLANT					**954,468,363.14**	**592,554,715**	**532,077,470**	**25,386,493**	**2.66**	**21.0**
	TRANSMISSION PLANT										
352.00	STRUCTURES AND IMPROVEMENTS										
	V.C. SUMMER - NUCLEAR	06-2062	70-R2	*	(10)	3,967,508.96	256,903	4,107,357	110,459	2.78	37.2
	OTHER LOCATIONS		70-R2		(10)	910,637.86	898,970	102,732	1,477	0.16	69.6
	TOTAL STRUCTURES AND IMPROVEMENTS					4,878,146.82	1,155,873	4,210,089	111,936	2.29	37.6
352.50	STRUCTURES AND IMPROVEMENTS - CIPv5										
	V.C. SUMMER - NUCLEAR	06-2062	70-R2	*	(10)	1,306,897.24	8,967	1,428,620	35,222	2.70	40.6
	OTHER LOCATIONS		70-R2		(10)	404,181.86	45,965	398,635	5,963	1.48	66.9
	TOTAL STRUCTURES AND IMPROVEMENTS - CIPv5					1,711,079.10	54,932	1,827,255	41,185	2.41	44.4
353.00	STATION EQUIPMENT										
	V.C. SUMMER - NUCLEAR	06-2062	60-S0.5	*	(20)	17,852,075.96	4,789,759	16,632,732	479,343	2.69	34.7
	PARR - HYDRO	06-2064	60-S0.5	*	(20)	375,936.02	281,602	169,521	4,977	1.32	34.1
	FAIRFIELD PUMPED STORAGE	06-2128	60-S0.5	*	(20)	1,419,261.53	891,559	811,555	16,096	1.13	50.4
	SALUDA - HYDRO	06-2082	60-S0.5	*	(20)	10,693,127.06	4,290,033	8,541,719	199,166	1.86	42.9
	STEVENS CREEK - HYDRO	06-2079	60-S0.5	*	(20)	4,615,432.70	2,163,264	3,375,255	81,348	1.76	41.5
	NEAL SHOALS - HYDRO	06-2055	60-S0.5	*	(20)	137,436.28	48,872	116,052	3,454	2.51	33.6
	COLUMBIA ENERGY CENTER	12-2054	60-S0.5	*	(20)	2,118,214.51	813,394	1,728,463	55,948	2.64	30.9
	OTHER LOCATIONS		60-S0.5		(20)	399,759,727.61	106,227,343	373,484,330	7,783,155	1.95	48.0
	TOTAL STATION EQUIPMENT					436,971,211.67	119,505,826	404,859,627	8,623,487	1.97	46.9

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	(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
353.10	STATION EQUIPMENT - STEP UP TRANSFORMERS										
	V.C SUMMER - NUCLEAR	06-2062	55-S3	*	(20)	13,925,389.09	4,432,681	12,277,786	330,744	2.38	37.1
	PARR - HYDRO	06-2064	55-S3	*	(20)	397,439.96	324,579	152,349	9,019	2.27	16.9
	FAIRFIELD PUMPED STORAGE	06-2128	55-S3	*	(20)	7,698,519.87	2,832,246	6,405,978	149,486	1.94	42.9
	SALUDA - HYDRO	06-2082	55-S3	*	(20)	2,170,723.89	897,398	1,707,471	67,003	3.09	25.5
	WATEREE - STEAM	06-2045	55-S3	*	(20)	5,570,895.24	1,625,009	5,060,065	200,280	3.60	25.3
	MCMEEKIN - STEAM	06-2038	55-S3	*	(20)	818,997.20	757,313	225,484	13,775	1.68	16.4
	URQUHART - STEAM	06-2035	55-S3	*	(20)	4,328,833.57	1,419,710	3,774,890	283,968	6.56	13.3
	COPE - STEAM	06-2071	55-S3	*	(20)	6,020,025.00	2,984,691	4,239,339	131,208	2.18	32.3
	WILLIAMS-BUSHY PARK GT	06-2025	55-S3	*	(20)	150,417.37	158,219	22,282	3,875	2.58	5.8
	HARDEEVILLE GT	12-2019	55-S3	*	(20)	118,166.04	137,282	4,517	4,517	3.82	1.0
	COIT GT	06-2029	55-S3	*	(20)	118,154.04	118,493	23,292	2,854	2.42	8.2
	URQUHART GT	06-2052	55-S3	*	(20)	1,214,326.02	582,454	874,737	29,690	2.44	29.5
	HAGOOD GT	06-2060	55-S3	*	(20)	2,846,149.85	1,566,685	1,848,695	57,002	2.00	32.4
	STEVENS CREEK - HYDRO	06-2079	55-S3	*	(20)	438,276.32	270,252	255,680	7,924	1.81	32.3
	JASPER	06-2044	55-S3	*	(20)	19,100,579.87	6,557,295	16,363,401	664,369	3.48	24.6
	COLUMBIA ENERGY CENTER	12-2054	55-S3	*	(20)	24,173,334.00	23,406,190	5,601,811	157,709	0.65	35.5
	SPARE SUBSTATION		55-S3		(20)	14,080,159.27	7,424,537	9,471,654	298,180	2.12	31.8
	TOTAL STATION EQUIPMENT - STEP UP TRANSFORMERS					103,170,386.60	55,495,034	68,309,431	2,411,603	2.34	28.3
353.50	STATION EQUIPMENT - CIPv5										
	V.C SUMMER - NUCLEAR	06-2062	60-S0.5	*	(20)	1,605,917.58	102,272	1,824,829	47,790	2.98	38.2
	FAIRFIELD PUMPED STORAGE	06-2128	60-S0.5	*	(20)	369,558.34	18,555	424,915	7,442	2.01	57.1
	SALUDA - HYDRO	06-2082	60-S0.5	*	(20)	172,680.72	8,447	198,770	4,012	2.32	49.5
	STEVENS CREEK - HYDRO	06-2079	60-S0.5	*	(20)	68,772.48	3,452	79,075	1,640	2.38	48.2
	COLUMBIA ENERGY CENTER	12-2054	60-S0.5	*	(20)	38,775.05	2,803	43,727	1,324	3.41	33.0
	OTHER LOCATIONS		60-S0.5		(20)	13,532,520.08	754,373	15,484,651	272,612	2.01	56.8
	TOTAL STATION EQUIPMENT - CIPv5					15,788,224.25	889,902	18,055,967	334,820	2.12	53.9
353.60	STATION EQUIPMENT - NND										
	V.C SUMMER - NUCLEAR	06-2062	60-S0.5	*	(20)	60,163,227.76	742,949	71,452,924	1,843,471	3.06	38.8
	SALUDA - HYDRO	06-2082	60-S0.5	*	(20)	13,488,236.44	394,799	15,791,085	315,124	2.34	50.1
	OTHER LOCATIONS		60-S0.5		(20)	11,363,691.94	288,325	13,348,105	227,892	2.01	58.6
	TOTAL STATION EQUIPMENT - NND					85,015,156.14	1,426,073	100,592,114	2,386,487	2.81	42.2
353.80	STATION EQUIPMENT - LEASEHOLD		20-SQ		0	1,503,881.95	1,014,478	489,404	75,241	5.00	6.5
354.00	TOWERS AND FIXTURES		80-R3		(40)	4,052,363.23	3,466,615	2,206,694	54,389	1.34	40.6
355.00	POLES AND FIXTURES		59-L1.5		(75)	467,885,695.88	133,821,854	684,978,114	13,886,501	2.97	49.3
355.50	POLES AND FIXTURES - NND		59-L1.5		(75)	104,046,746.16	2,837,079	179,244,727	3,102,706	2.98	57.8
355.80	POLES AND FIXTURES - LEASEHOLD		20-SQ		0	2,053,266.97	620,176	1,433,091	105,757	5.15	13.6
356.10	OVERHEAD CONDUCTORS AND DEVICES - OVERHEAD		64-S0.5		(60)	274,517,381.57	71,182,124	368,045,687	7,258,717	2.64	50.7
356.20	OVERHEAD CONDUCTORS AND DEVICES - FIBER OPTIC		64-S0.5		(60)	3,018,196.22	955,466	3,873,648	78,884	2.61	49.1
356.50	OVERHEAD CONDUCTORS AND DEVICES - NND		64-S0.5		(60)	65,708,670.35	1,020,360	104,113,513	1,659,362	2.53	62.7
356.80	OVERHEAD CONDUCTORS AND DEVICES - LEASEHOLD		20-SQ		0	2,014,268.55	1,288,607	725,662	190,751	9.47	3.8
357.00	UNDERGROUND CONDUIT		60-R3		(5)	19,549,114.01	2,746,722	17,779,848	367,097	1.88	48.4
358.00	UNDERGROUND CONDUCTORS AND DEVICES		55-R3		(5)	57,699,637.41	6,466,356	54,118,263	1,203,733	2.09	45.0
359.00	ROADS AND TRAILS		70-R4		0	73,766.16	19,812	53,954	948	1.29	56.9
	TOTAL TRANSMISSION PLANT					**1,649,657,193.04**	**403,967,289**	**2,014,917,088**	**41,893,604**	**2.54**	**48.1**

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES RELATED TO ELECTRIC AND COMMON PLANT AS OF DECEMBER 31, 2018

	ACCOUNT (1)	PROBABLE RETIREMENT DATE (2)	SURVIVOR CURVE (3)	NET SALVAGE PERCENT (4)	ORIGINAL COST (5)	BOOK RESERVE (6)	FUTURE ACCRUALS (7)	CALCULATED ANNUAL ACCRUAL AMOUNT (8)	CALCULATED ANNUAL ACCRUAL RATE (9)=(8)/(5)	COMPOSITE REMAINING LIFE (10)=(7)/(8)
	DISTRIBUTION PLANT									
361.00	STRUCTURES AND IMPROVEMENTS		70-R2	(10)	4,832,610.09	1,328,433	3,987,438	73,309	1.52	54.4
361.80	STRUCTURES AND IMPROVEMENTS - LEASEHOLD		20-SQ	0	66,541.62	62,747	3,795	3,795	5.70	1.0
362.00	STATION EQUIPMENT		60-S0.5	(10)	406,556,496.63	89,757,981	357,454,165	7,745,006	1.91	46.2
362.50	STATION EQUIPMENT - CIPv5		60-S0.5	(10)	752,224.03	28,863	798,583	13,756	1.83	58.1
362.80	STATION EQUIPMENT - LEASEHOLD		20-SQ	0	4,961,241.42	1,787,697	3,173,544	307,139	6.19	10.3
364.00	POLES, TOWERS AND FIXTURES		44-R1.5	(50)	482,823,378.90	149,135,415	575,099,653	17,779,190	3.68	32.3
365.00	OVERHEAD CONDUCTORS AND DEVICES		64-R1	(10)	526,473,709.99	167,638,156	411,482,925	7,649,267	1.45	53.8
366.00	UNDERGROUND CONDUIT		65-R2.5	(5)	162,211,057.70	54,321,763	115,999,848	2,217,830	1.37	52.3
367.00	UNDERGROUND CONDUCTORS AND DEVICES		50-S0.5	(5)	481,014,754.47	141,977,358	363,088,134	9,199,137	1.91	39.5
368.00	LINE TRANSFORMERS		46-R2	(5)	493,681,881.90	185,981,727	332,384,249	10,012,935	2.03	33.2
369.00	SERVICES - OVERHEAD		75-R3	(80)	110,188,286.72	67,670,880	130,668,036	2,386,952	2.17	54.7
369.10	SERVICES - UNDERGROUND		80-S3	(25)	189,844,730.72	64,041,858	173,264,055	2,689,239	1.42	64.4
370.00	METERS		22-L1.5	0	23,288,842.90	13,316,057	9,972,786	616,120	2.65	16.2
370.30	METERS - AMR	12-2028	15-S1 *	0	77,121,964.18	31,833,007	45,288,957	6,429,689	8.34 **	7.0
370.40	METERS - AMI	12-2028	12-R0.5 *	0	19,449,650.08	3,161,214	16,288,436	2,238,525	11.51 **	7.3
370.50	METERS - DER	12-2028	12-R0.5 *	0	6,230,880.31	748,017	5,482,863	684,193	10.98 **	8.0
373.00	STREET LIGHTING AND SIGNAL SYSTEMS		42-L1	(20)	346,934,033.09	115,442,681	300,878,159	8,997,550	2.59	33.4
373.10	STREET LIGHTING AND SIGNAL SYSTEMS - LED		30-S1	(20)	499,023.04	80,386	518,442	19,647	3.94	26.4
	TOTAL DISTRIBUTION PLANT				**3,336,931,307.79**	**1,088,314,240**	**2,845,834,068**	**79,063,279**	**2.37**	**36.0**
	GENERAL PLANT									
390.10	STRUCTURES AND IMPROVEMENTS		50-S0	(20)	98,260,720.25	29,575,170	88,337,694	2,126,050	2.16	41.6
390.20	STRUCTURES AND IMPROVEMENTS - WAREHOUSE		50-R2.5	(20)	10,251,488.87	2,598,494	9,703,293	240,775	2.35	40.3
390.80	STRUCTURES AND IMPROVEMENTS - OFFICE LEASE		50-S0	(20)	145,185.39	98,535	75,687	2,594	1.79	29.2
390.90	STRUCTURES AND IMPROVEMENTS - WAREHOUSE LEASE		50-R2.5	(20)	111,031.25	32,671	100,566	4,085	3.68	24.6
391.10	OFFICE FURNITURE AND EQUIPMENT		20-SQ	0	8,048,291.76	4,321,441	3,726,851	348,709	4.33	10.7
391.20	OFFICE FURNITURE AND EQUIPMENT - EDP		5-SQ	0	5,023,590.05	3,479,614	1,543,976	758,077	15.09	2.0
391.30	OFFICE FURNITURE AND EQUIPMENT - DATA HANDLING		10-SQ	0	296,469.85	169,593	126,877	64,585	21.78	2.0
393.00	STORES EQUIPMENT		25-SQ	0	96,438.93	63,327	33,112	3,576	3.71	9.3
394.10	TOOL, SHOP AND GARAGE EQUIPMENT - HAND TOOLS		20-SQ	0	526,917.85	233,709	293,209	24,999	4.74	11.7
394.20	TOOL, SHOP AND GARAGE EQUIPMENT - LINE		20-SQ	0	2,787,005.64	1,385,541	1,401,465	111,137	3.99	12.6
394.30	TOOL, SHOP AND GARAGE EQUIPMENT - SHOP		20-SQ	0	228,242.98	156,066	72,177	9,963	4.37	7.2
394.40	TOOL, SHOP AND GARAGE EQUIPMENT - GARAGE		20-SQ	0	263,167.56	118,470	144,698	15,987	6.07	9.1
395.10	LABORATORY EQUIPMENT - METER TEST		20-SQ	0	1,566,545.36	1,007,502	559,043	50,112	3.20	11.2
395.20	LABORATORY EQUIPMENT - OTHER TEST		20-SQ	0	492,295.07	234,252	258,043	22,334	4.54	11.6
395.30	LABORATORY EQUIPMENT - FIELD TEST		20-SQ	0	4,175,137.18	2,405,010	1,770,127	151,196	3.62	11.7
397.00	COMMUNICATION EQUIPMENT		10-SQ	0	8,704,607.07	3,322,848	5,381,759	651,453	7.48	8.3
397.50	COMMUNICATION EQUIPMENT - CIPv5		10-SQ	0	265,650.15	27,947	237,703	31,694	11.93	7.5
398.00	MISCELLANEOUS EQUIPMENT		20-SQ	0	6,365,375.87	3,754,288	2,611,088	206,403	3.24	12.7
	TOTAL GENERAL PLANT				**147,608,161.08**	**52,984,478**	**116,377,368**	**4,823,729**	**3.27**	**24.1**
	TOTAL ELECTRIC PLANT				**10,059,421,939.72**	**4,078,646,817**	**8,313,806,441**	**252,436,602**		
	COMMON PLANT									
690.10	STRUCTURES AND IMPROVEMENTS - OFFICE		50-S0	(20)	137,882,055.31	35,084,696	130,373,770	3,242,075	2.35	40.2
690.20	STRUCTURES AND IMPROVEMENTS - WAREHOUSE		50-R2.5	(20)	22,551,575.91	5,990,692	21,071,199	515,450	2.29	40.9
690.80	STRUCTURES AND IMPROVEMENTS - OFFICE LEASE		50-S0	(20)	15,001,161.40	4,069,532	13,931,862	324,584	2.16	42.9
690.90	STRUCTURES AND IMPROVEMENTS - WAREHOUSE LEASE		50-R2.5	(20)	293,437.21	104,379	247,746	6,288	2.14	39.4
691.10	OFFICE FURNITURE AND EQUIPMENT		20-SQ	0	8,056,200.89	4,605,226	3,450,975	460,647	5.72	7.5
691.20	OFFICE FURNITURE AND EQUIPMENT - EDP		5-SQ	0	795,862.55	562,409	233,454	161,979	20.35	1.4
691.30	OFFICE FURNITURE AND EQUIPMENT - DATA HANDLING		10-SQ	0	1,107,657.53	1,019,959	87,699	18,012	1.63	4.9
694.10	TOOL, SHOP AND GARAGE EQUIPMENT - POWER TOOLS		20-SQ	0	3,133.77	2,886	248	197	6.29	1.3
694.30	TOOL, SHOP AND GARAGE EQUIPMENT - SHOP TOOLS		20-SQ	0	116,626.77	72,154	44,473	5,517	4.73	8.1
694.40	TOOL, SHOP AND GARAGE EQUIPMENT - GARAGE		20-SQ	0	1,604,970.29	825,799	779,171	77,597	4.83	10.0
695.20	LABORATORY EQUIPMENT - OTHER TEST		20-SQ	0	65,056.34	60,389	4,667	3,111	4.78	1.5
695.30	LABORATORY EQUIPMENT - FIELD TEST		20-SQ	0	42,899.28	35,107	7,792	1,322	3.08	5.9

DOMINION ENERGY SOUTH CAROLINA, INC.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES RELATED TO ELECTRIC AND COMMON PLANT AS OF DECEMBER 31, 2018

	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST	BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
697.00	COMMUNICATION EQUIPMENT		10-SQ	0	4,993,942.24	2,619,094	2,374,848	478,558	9.58	5.0
697.80	COMMUNICATION EQUIPMENT - LEASEHOLD		10-SQ	0	17,081.66	7,603	9,479	1,605	9.40	5.9
698.00	MISCELLANEOUS EQUIPMENT		20-SQ	0	6,119,326.15	3,366,614	2,752,712	273,399	4.47	10.1
	TOTAL COMMON PLANT				**198,650,987.30**	**58,426,539**	**175,370,095**	**5,570,341**	**2.80**	**31.5**
	TOTAL DEPRECIABLE PLANT				**10,258,072,927.02**	**4,137,073,356**	**8,489,176,536**	**258,006,943**	**2.52**	**32.9**
	NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED									
	ELECTRIC PLANT									
301.00	ORGANIZATION				14,988.33	14,988				
302.00	FRANCHISES AND CONSENTS				4,643,673.29	3,380,802				
302.20	FRANCHISES AND CONSENTS - NUCLEAR				8,564,832.09	3,302,714				
303.00	MISCELLANEOUS INTANGIBLE PLANT				43,099,019.72	54,887,217				
303.20	MISCELLANEOUS INTANGIBLE PLANT - NUCLEAR				21,518,977.14					
303.30	MISCELLANEOUS INTANGIBLE PLANT - CYBER				915,168.18	297,199				
303.50	MISCELLANEOUS INTANGIBLE PLANT - CIPv5				738,890.44	423,174				
303.60	MISCELLANEOUS INTANGIBLE PLANT - DER				987,361.60	102,866				
310.00	LAND OWNED IN FEE				13,553,077.37					
317.00	ARO - STEAM PRODUCTION				(1,048,968.09)	20,651,919				
320.10	LAND OWNED IN FEE				880,611.29					
326.00	ARO - NUCLEAR PRODUCTION				22,893,825.83	14,589,110				
330.10	LAND OWNED IN FEE				29,482,601.10					
340.10	LAND OWNED IN FEE				2,918,325.21					
347.00	ARO - OTHER PRODUCTION				(5,796,000.74)	6,671,220				
350.10	LAND OWNED IN FEE				12,557,147.41					
350.20	LAND RIGHTS AND EASEMENTS				92,345,228.42	53,168				
350.30	LAND OWNED IN FEE - NND				3,743,763.71					
353.10	BURTON - STATION EQUIPMENT - STEP UP TRANSFORMERS					13,349				
360.10	LAND OWNED IN FEE				24,978,634.99					
360.20	LAND RIGHTS AND EASEMENTS				35,065,945.39					
360.80	LAND RIGHTS AND EASEMENTS				90,300.04	9,792				
374.10	ARO - DISTRIBUTION TRANSFORMERS				(76,592.94)	10,528				
374.20	ARO - DISTRIBUTION STRUCTURES				183,077.21	103,823				
389.10	LAND OWNED IN FEE				8,188,925.80					
392.10	ELECTRIC AUTOMOBILES				17,494,792.61	13,454,937				
396.00	POWER OPERATED EQUIPMENT				28,895,067.69	23,991,740				
	TOTAL ELECTRIC PLANT				**366,832,673.09**	**141,958,546**				
	COMMON PLANT									
603.00	MISCELLANEOUS INTANGIBLE PLANT				128,964,084.85	100,978,995				
689.10	LAND OWNED IN FEE				18,264,064.16					
689.20	LAND RIGHTS				1,028.94					
692.10	AUTOMOBILES				135,745.10	4,736,769				
692.20	LIGHT DUTY TRUCKS				4,569,336.11					
692.30	MEDIUM DUTY TRUCKS				545,931.81	16,179				
692.70	TRAILERS				554,708.11					
696.00	POWER OPERATED EQUIPMENT				3,048,564.31	2,067,969				
699.10	ARO - GENERAL PLANT TANKS				3,750.14	11,397				
699.20	ARO - GENERAL PLANT STRUCTURES				80,580.69	93,265				
	TOTAL COMMON PLANT				**156,167,794.22**	**107,904,575**				
	TOTAL NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED				**523,000,467.31**	**249,863,121**				
	TOTAL ELECTRIC AND COMMON PLANT				**10,781,073,394.33**	**4,386,936,477**	**8,489,176,536**	**258,006,943**		

* CURVE SHOWN IS INTERIM SURVIVOR CURVE. EACH FACILITY IN THE ACCOUNT IS ASSIGNED AN INDIVIDUAL PROBABLE RETIREMENT YEAR.
** UNRECOVERED DEPRECIABLE BALANCE OF RETIRED ERTs WILL BE AMORTIZED THROUGH DECEMBER 31, 2028.